JVC

SERVICE MANUAL

FLAT COLOR TELEVISION

AV-25VT15/R

BASIC CHASSIS
CW

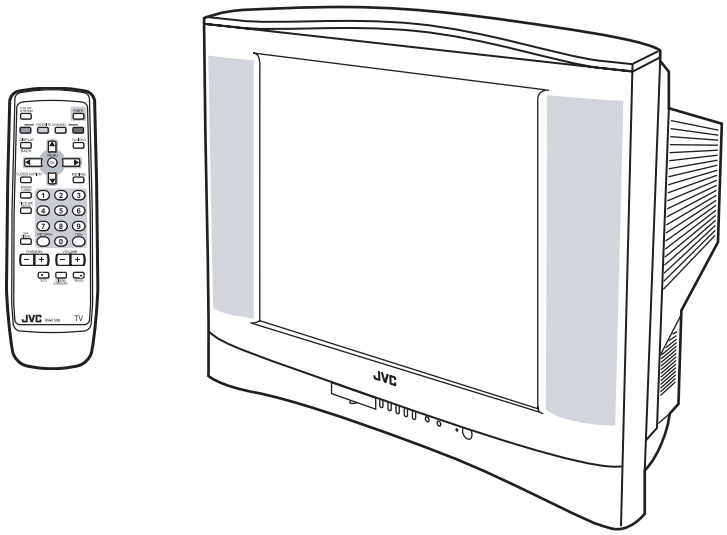


TABLE OF CONTENTS

1 PRECAUTION 1-3
2 SPECIFIC SERVICE INSTRUCTIONS 1-4
3 DISASSEMBLY 1-7
4 ADJUSTMENT 1-13
5 TROUBLESHOOTING 1-31

COPYRIGHT © 2005 Victor Company of Japan, Limited

No.YA255
2005/4

SPECIFICATION

Items		Contents
Dimensions (W × H × D)		72.8cm × 53.6cm × 48.15cm
Mass		33kg
TV RF System		M / N
Color System	TV Mode Video Mode	NTSC / PAL-M / PAL-N NTSC / PAL-M / PAL-N
Stereo System		MTS (Multi-Channel Television Sound)
Receiving Frequency	VHF Low VHF High UHF CATV	46.25 MHz ~ 140.25 MHz (AS0 ~ S6) 147.25 MHz ~ 423.25 MHz (S7 ~ S36) 431.25 MHz ~ 863.25 MHz (S37 ~ C57) Mid : X ~ Z, S1 ~ S10 Super: S11 ~ S20 Hyper: S21 ~ S41
Intermediate Frequency	VIF	38.0MHz
	SIF	33.5MHz (4.5MHz)
Color Sub Carrier Frequency		3.58MHz/4.43MHz (NTSC)
Aerial Input Terminal		75Ω unbalanced, coaxial
Power Input		AC110V-AC240V, 50Hz / 60Hz (Operating Voltage 90V ~ 260V)
Power Consumption		151W (Max.) / 102W (Avg.)
Picture Tube ⚠		A59QDC580X09TD 25-inch, aspect ratio 4:3, flat square face type, tinted
Screen Size		Visible size :59.6cm (Diagonal) / 47.8cm × 36.3cm (H × V)
High Voltage		31kV ± 1.5kV (at zero beam current)
Speaker		6.5cm × 13cm, Oval type × 2
Audio Output		7W + 7W
Video / Audio Input [1/2/3]	S-Video [1]	Mini-DIN 4 pin × 1 Y: 1V(p-p), positive (negative sync provided), 75Ω C: 0.286V(p-p) (Burst signal), 75Ω
	Video [1/2/3]	1V(p-p), negative sync, 75Ω, RCA pin jack × 3
	Audio [1/2/3]	500mV(rms) (-4dBs), high impedance, RCA pin jack × 6
	Component Video [2]	RCA pin jack × 3 Y:1V(p-p), positive (negative sync), 75Ω Cb/Cr:0.7V(p-p), 75Ω
Video / Audio Output	Video Audio	1V(p-p), 75Ω, RCA pin jack × 1 500mV(rms)(-4dBs), Low impedance (400Hz when modulated 100%), RCA pin jack × 2
Headphone		3.5mm stereo mini jack × 1
Remote Control Unit		RM-C1288-1H (AA/R06/UM-3 battery × 2)

Design & specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 SAFETY PRECAUTIONS

(1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual**. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

(4) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED (NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND.
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.

(5) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See B1 POWER SUPPLY check).

(6) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

(7) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

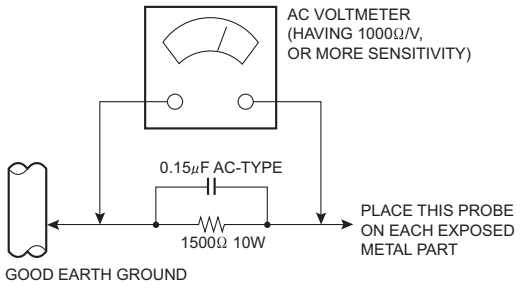
(8) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(9) **Isolation Check (Safety for Electrical Shock Hazard)**
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

a) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. (. . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

b) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

Alternate Check Method
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000Ω per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

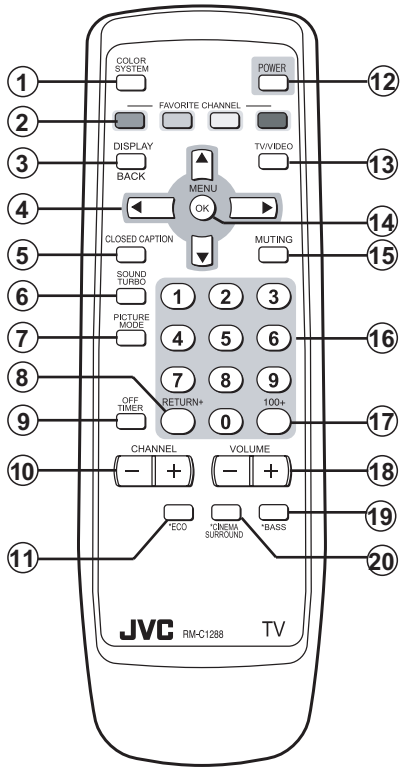
2.1 FEATURES

- New chassis design enables use of an interactive on-screen control.
- Pure flat CRT produces fine textured picture in every detail.
- Wide range voltage (110V ~ 240V) for AC power input.
- With AUDIO/VIDEO/S-VIDEO/COMPONENT input terminals.
- I^2C bus control utilizes single chip ICs.
- By means of AUTO PROGRAM, the TV stations can be selected automatically and the TV channels can also be rearranged automatically.
- Built-in DIGITAL ECO MODE (ECONOMY, ECOLOGY).
  In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Built-in OFF TIMER & RETURN +.

2.2 FUNCTIONS

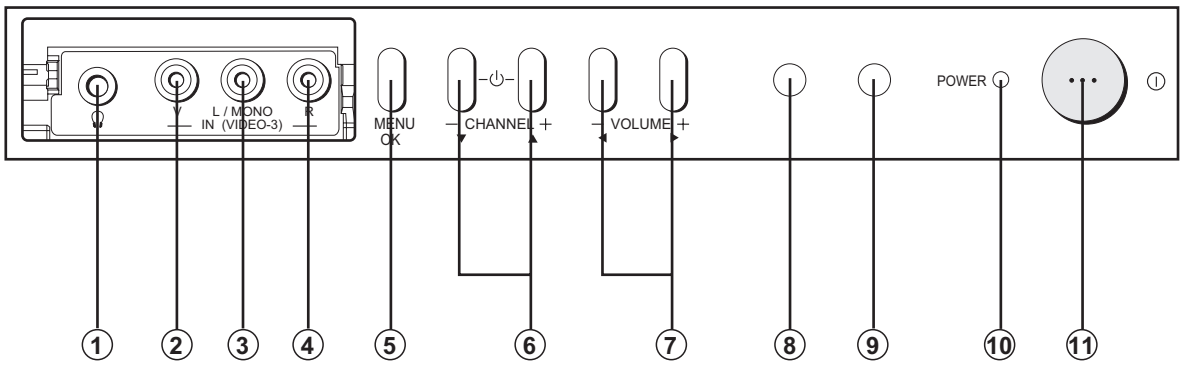
■ REMOTE CONTROL UNIT

RM-C1288-1H



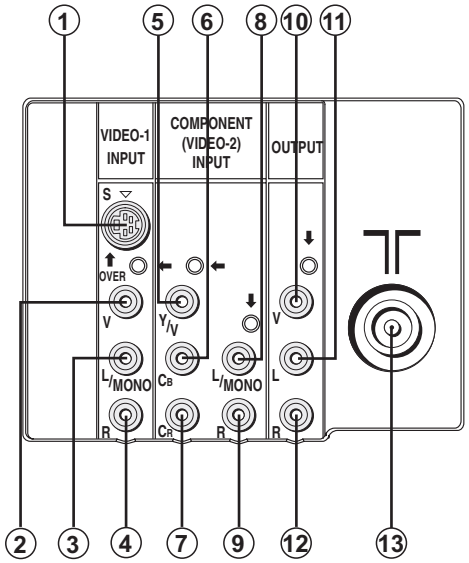
① COLOR SYSTEM key	⑫ POWER key
② FAVORITE CHANNEL keys	⑬ TV / VIDEO key
③ DISPLAY BACK key	⑭ MENU (OK) key
④ MENU (▲/▼, ◀/▶) keys	⑮ MUTING key
⑤ CLOSED CAPTION key	⑯ Number keys
⑥ SOUND TURBO key	⑰ 100+ key
⑦ PICTURE MODE key	⑱ VOLUME (-/+) keys
⑧ RETURN + key	⑲ Not used
⑨ OFF TIMER key	⑳ CINEMA SURROUND key
⑩ CHANNEL (-/+) keys	
⑪ ECO key	

■ FRONT PANEL CONTROLS



①	HEADPHONE jack
②	IN (VIDEO-3) : VIDEO
③	IN (VIDEO-3) : AUDIO L/MONO
④	IN (VIDEO-3) : AUDIO R
⑤	MENU (OK) button
⑥	CHANNEL (-/+) buttons
⑦	VOLUME (-/+) buttons
⑧	Remote control sensor
⑨	ECO sensor
⑩	POWER lamp
⑪	MAIN POWER button

■ REAR TERMINAL



VIDEO-1 INPUT TERMINAL

①	S-VIDEO
②	VIDEO
③	AUDIO L/MONO
④	AUDIO R

COMPONENT (VIDEO-2) INPUT TERMINAL

⑤	Y/VIDEO
⑥	C_B
⑦	C_R
⑧	AUDIO L/MONO
⑨	AUDIO R

OUTPUT TERMINAL

⑩	VIDEO
⑪	AUDIO L
⑫	AUDIO R

⑬ Aerial input terminal

2.3 MAIN CPU [MAIN PWB : IC701] PIN FUNCTION

Pin no.	Pin name	I/O	Remark
1	VssP2	-	GND
2	VssC4	-	GND
3	V1.8C4	I	1.8V (Digital)
4	V3.3A3	I	3.3V
5	VrefP_Sdac	I	3.3V (Positive)
6	VrefN_Sdac	-	GND
7	VrefP_Sdac	I	3.3V (Negative)
8	VrefN_Sdac	-	GND
9	VrefP_Sdac	I	3.3V (Positive)
10	XtalIn	I	24.567MHz for system clock
11	XtalOut	O	24.567MHz for system clock
12	VssA1	-	GND
13	NECK	I	V-guard input/ I/O switch
14	CONT	I	1.8V regulator control
15	V5P1	I	+5V
16	Ph2	-	Phase-2 filter
17	Ph1	-	Phase-1 filter
18	Gnd1	-	GND
19	SecPll	-	SECAM PLL decoupling
20	Dec8G	-	Bandgap decoupling
21	EW	O	East-West drive output
22	VDRB-	O	Vertical drive B output
23	VDRA+	O	Vertical drive A output
24	Vif1	I	Video IF input 1
25	Vif2	I	Video IF input 2
26	Vsc	-	Vertical sawtooth capacitor
27	Iref	I	Reference current input
28	GndIF	-	GND
29	Sif1	I	Sound IF input 1
30	Sif2	I	Sound IF input 2
31	AGC	O	Tuner AGC output
32	EHT	I	EHT/overvoltage protection input
33	Ssif/RefIn/Avl/RefOut	O	Automatic Volume Levelling/ sound IF input / subcarrier reference output / external reference signal input for I signal mixer for DVB operation
34	L3	I	Audio-L3 input (left signal)
35	R3	I	Audio-R3 input (right signal)
36	L_OUT	O	Audio L output
37	R_OUT	O	Audio R output
38	DecsDem	-	Decoupling sound demodulator
39	QssO/AmO/AudeEm	O	QSS intercarrier output / AM output / deemphasis / (front-end audio out)
40	Gnd2	-	GND
41	PllIf	-	IF-PLL loop filter
42	SifAgc	-	AGC sound IF
43	IfVo/FmRo/DvbO	O	Not used
44	NC	O	Not used
45	V8AudioSwitches	I	8V
46	AgcSsif	-	AGC capacitor second sound IF
47	V5P2	I	5V
48	V_OUT	O	Video output
49	L1	I	Audio-L1 input
50	R1	I	Audio-R1 input
51	V3	I	Video V3 input
52	C4	I	Not used
53	Audio2InL	I	Not used
54	Audio2InR	I	Not used
55	V2/Y	I	Video 2 input
56	L2	I	Audio L2 input (Left signal)
57	R2	I	Audio R2 input (right signal)
58	Y3/Cvbs	I	S-Video Y1 input
59	C1	I	S-Video C1 input
60	AudioLsL	O	Audio L output for audio power amplifier
61	AudioLsR	O	Audio R output for audio power amplifier
62	HP_L	O	Headphone L
63	HP_R	O	Headphone R

Pin no.	Pin name	I/O	Remark
64	CVBSO/PIP	O	CVBS / PIP output
65	SVM	O	Scan velocity modulation output
66	FbiSo	I	Flyback input/sandcastle output
67	Hout	O	Horizontal output
68	VssComb	-	GND
69	V5Comb	I	5V
70	Vin/R2/Pr	I	PIP R input
71	Uin/B2/Pb	I	PIP B input
72	Yin/G2/Y	I	PIP G input
73	Ysync	I	Not used
74	Yout	O	Not used
75	Uout/INSSW2	I	YUV insertion input
76	NC	O	Not used
77	INSSW3	I	YUV insertion input
78	R3/Pr	I	Component PR input (Video-2)
79	G3/Y	I	Component Y input (Video-2)
80	B3/Pb	I	Component PB input (Video-2)
81	Gnd3	-	GND
82	V5P3	I	5V
83	BCL	I	Beam current limiter input
84	BLKIN	I	Black current input
85	Rout	O	R output
86	Gout	O	G output
87	Bout	O	B output
88	V3.3A1	I	3.3V
89	RefAdN	-	GND
90	V3.3RefAdP	I	3.3V (Positive)
91	RefAd	I	3.3/2V
92	GndA	-	GND
93	V1.8A	I	1.8V
94	V3.3A2	I	3.3V
95	VssADC	-	GND
96	V1.8ADC	I	1.8V
97	REMOTE	I	Remote control
98	PW_LED	I	POWER LED control
99	P11/TO	I	POWER LED control
100	V1.8C2	I	1.8V
101	VssC2	-	GND
102	COMPONENT-PIP	-	Not used
103	COMB_SW_NT3.5/OTHER	-	Not used
104	VER_PROTECT	O	X-ray protect
105	S_REDUCE	O	Sound control
106	P00/I2SDI1	O	Not used
107	POWER	O	SUB POWER control
108	SCL1	I	I2C bus clock
109	SDA1	I/O	I2C bus clock
110	V3.3P	I	3.3V
111	ROTATION	O	ROTATION
112	3.58/OTHER	O	NTSC 3.58 detection
113	A_MUTE	O	Audio muting
114	4.5/OTHER	O	NTSC 4.43 detection
115	PROT	I	Protect
116	ECO_IN	I	ECO sensor level detection
117	V1.8C1	I	1.8V (Digital)
118	DecV1V8	I	1.8V
119	KEY_IN	I	Key scan data
120	VDO_DET	I	Video DET input
121	VSSC1+P1	-	Digital GND
122	P24/PWM3	I	S-Video DET input
123	P25/PWM4	O	GTVA_reset
124	V1.8C3	I	1.8V (Digital)
125	VssC3	-	GND
126	P12/Int2	I	External interrupt
127	SDA0	I/O	I2C bus data (for memory)
128	SCL0	I	I2C bus clock (for memory)

SECTION 3
DISASSEMBLY

3.1 DISASSEMBLY PROCEDURE

3.1.1 REMOVING THE REAR COVER

- Unplug the power cord.
  (1) Remove the 11 screws **[A]** and 4 screws **[B]** as shown in Fig.1.
  (2) Withdraw the REAR COVER toward you.

CAUTION:

When reinstalling the rear cover, carefully push it inward after inserting the MAIN PWB into the REAR COVER groove.

3.1.2 REMOVING THE MAIN PW BOARD

- Remove the REAR COVER.
  (1) Slightly raise the both sides of the MAIN PWB by hand.
  (2) Withdraw the MAIN PWB backward.
  (If necessary, take off the wire clamp and connectors, etc.)

3.1.3 REMOVING THE SPEAKER

- Remove the REAR COVER.
  (1) Remove the 2 screws **[C]** as shown in Fig.1.
  (2) Follow the same steps when removing the other hand SPEAKER.

3.1.4 CHECKING THE MAIN PW BOARD

- To check the back side of the MAIN PWB.
  (1) Pull out the MAIN PWB. (Refer to REMOVING THE MAIN PW BOARD).
  (2) Erect the MAIN PWB vertically so that you can easily check its back side.

CAUTIONS:

- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- When repairing, connect the DEG. COIL to the DEG. connector on the MAIN PWB.
- When repairing, connect the DEG. COIL to the DEG. connector on the MAIN PWB.

3.1.5 WIRE CLAMPING AND CABLE TYING

(1) Be sure to clamp the wire.
(2) Never remove the cable tie used for tying the wires together.
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

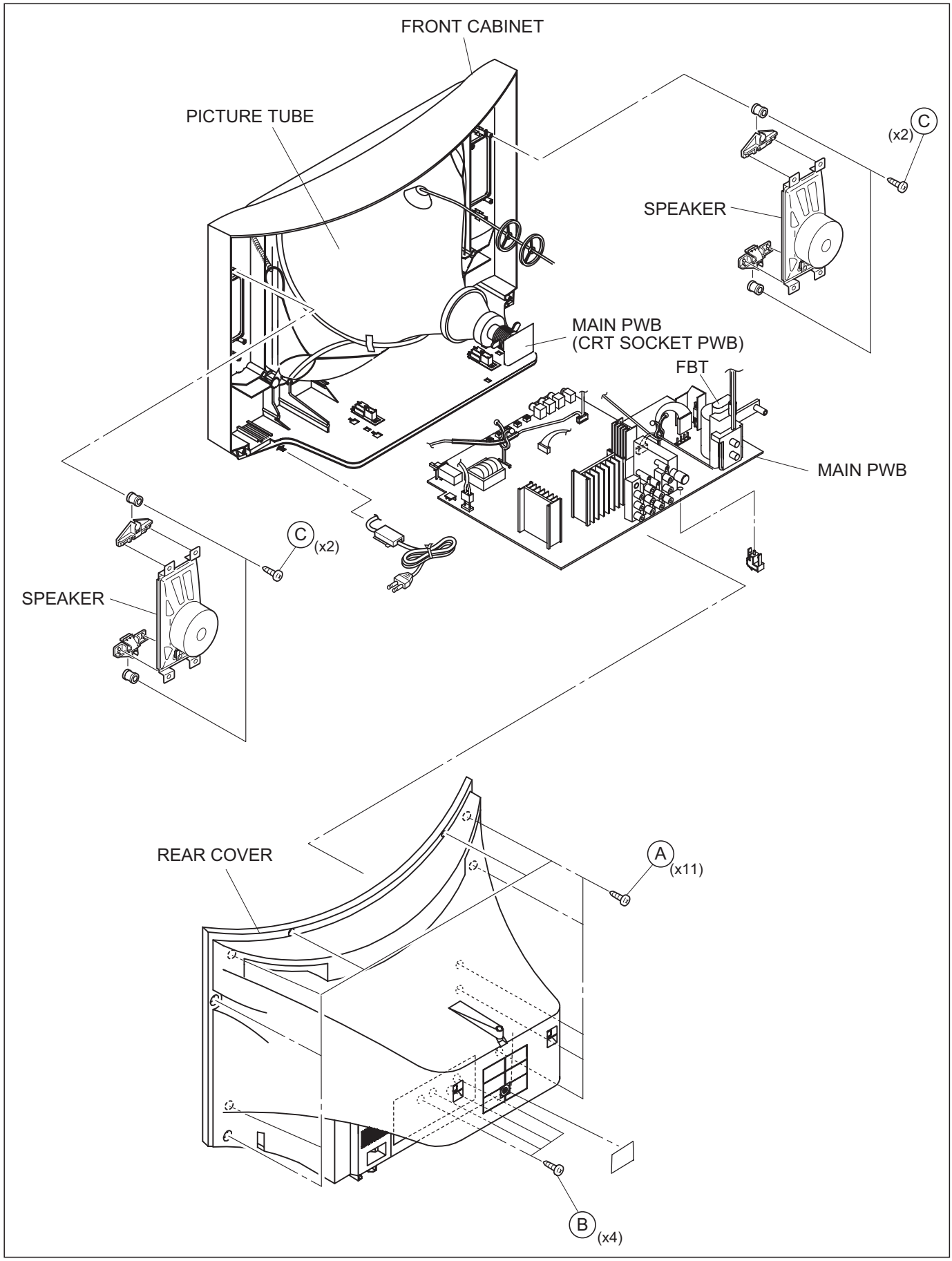

FRONT CABINET
PICTURE TUBE
C
(x2)
SPEAKER
MAIN PWB
(CRT SOCKET PWB)
FBT
MAIN PWB
C
(x2)
SPEAKER
REAR COVER
A
(x11)
B
(x4)

Fig.1

3.2 REPLACEMENT OF MEMORY IC

3.2.1 MEMORY IC

This TV uses the following memory IC.

Memory IC: IC702 on MAIN PWB

The memory IC memorizes data for correctly operating the video and deflection circuits. When replacing the memory IC, be sure to use the same type IC written with the initial values of data. In other words, use the specific IC listed in "PRINTED WIRING BOARD PARTS LIST". For its mounting location, refer to "ADJUSTMENT LOCATIONS".

3.2.2 PROCEDURE FOR REPLACING MEMORY IC

1. Power off

Switch the power off and unplug the power cord from the wall outlet.

2. Replacing the memory IC

Replace the memory IC with new one. Be sure to use the memory IC written with the initial data values.

3. Power on

Plug the power cord into the wall outlet and switch the power on.

4. Check and setting of SYSTEM CONSTANT SET:

(1) Press the [DISPLAY] key and the [PICTURE MODE] key on the remote control unit simultaneously.
The SERVICE MENU screen will be displayed.(See Fig.1.)

(2) In the SERVICE MENU, press the [DISPLAY] key and [PICTURE MODE] key simultaneously. Then, the SYSTEM CONSTANT SET screen will be displayed.(See Fig.2.)

(3) Check whether the setting values of the SYSTEM CONSTANT SET are the same as those indicated in Table 1.
If the value is different, select the setting item with the MENU [▲] / [▼] key, and set the correct value with the MENU [◀] / [▶] key.

(4) Press the [DISPLAY] key twice to return to the normal screen.

5. Receive channel setting

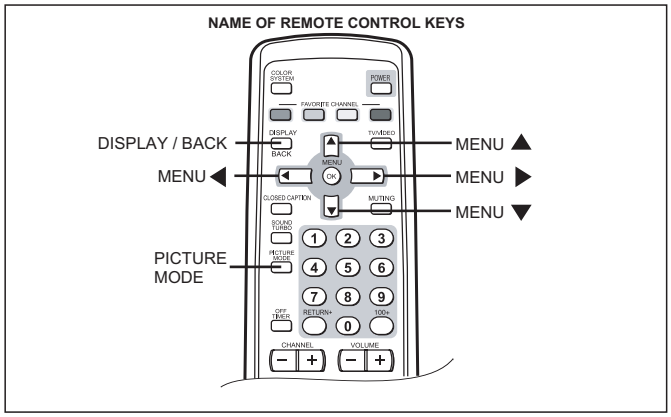
Refer to the **OPERATING INSTRUCTIONS** and set the receive channels (channels preset).

6. User setting

Check the user setting values in Table 2 and Table 3. If setting value is different, set the correct value.
For setting, refer to the **OPERATING INSTRUCTIONS**.

7. Setting of SERVICE MENU

Verify the setting for each setting item in the SERVICE MENU.(See Table 4.) If readjustment is necessary, perform adjustment referring to "ADJUSTMENTS PROCEDURE".



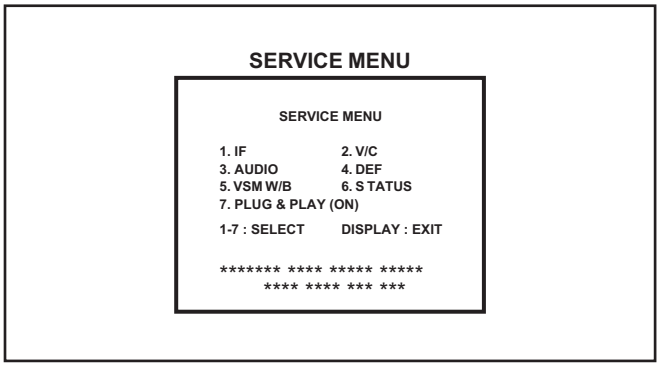


Fig.1

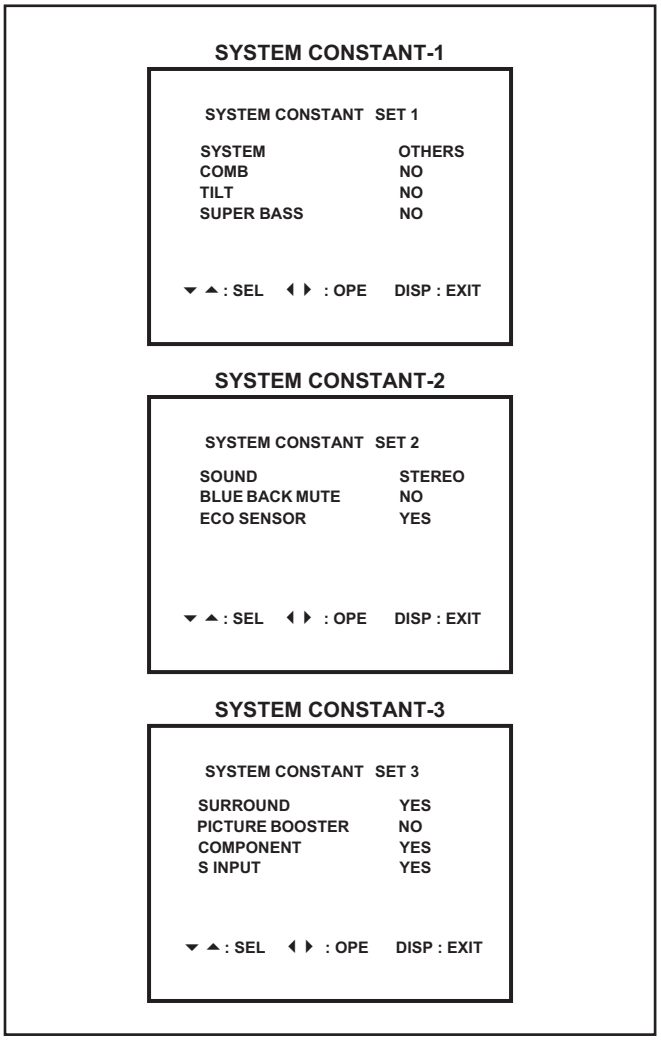

SYSTEM CONSTANT-1
SYSTEM CONSTANT SET 1
SYSTEM OTHERS
COMB NO
TILT NO
SUPER BASS NO
▼ ▲ : SEL ◀ ▶ : OPE DISP : EXIT
SYSTEM CONSTANT-2
SYSTEM CONSTANT SET 2
SOUND STEREO
BLUE BACK MUTE NO
ECO SENSOR YES
▼ ▲ : SEL ◀ ▶ : OPE DISP : EXIT
SYSTEM CONSTANT-3
SYSTEM CONSTANT SET 3
SURROUND YES
PICTURE BOOSTER NO
COMPONENT YES
S INPUT YES
▼ ▲ : SEL ◀ ▶ : OPE DISP : EXIT

Fig.2

3.2.3 FACTORY SETTING VALUE

■ **SETTING OF SYSTEM CONSTANT SET**

Setting item	Setting content	Setting value
SYSTEM	TAIWAN ↔ OTHERS	OTHERS
COMB	YES ↔ NO	NO
TILT	YES ↔ NO	NO
SUPER BASS	YES ↔ NO	NO
SOUND	STEREO ↔ PB ↔ MONO	STEREO
BLUE BACK MUTE	YES ↔ NO	NO
ECO SENSOR	YES ↔ NO	YES
SURROUND	YES ↔ NO	YES
PICTURE BOOSTER	YES ↔ NO	NO
COMPONENT	YES ↔ NO	YES
S INPUT	YES ↔ NO	YES

Table 1

■ **SETTING OF BASIC FUNCTIONS**

Setting item	Setting value
POWER	Off
SUB POWER	On
VOLUME	15
COLOR SYSTEM	PAL-N
PICTURE MODE (VSM)	BRIGHT
CINEMA SURROUND	OFF
OFF TIMER	OFF
CLOSED CAPTION	OFF
CHANNEL POSITION	CH02

Table 2

■ **SETTING OF MENU SCREEN**

Setting item	Setting value
INPUT	TV
VNR	AUTO
COMPRESS (16:9)	OFF
AUTO SHUTOFF	OFF
CHILD LOCK	OFF
BLUE BACK	ON
VIDEO-2 SET	VIDEO
AUTO PROGRAM	Refer to OPERATING INSTRUCTIONS
CHANNEL SUMMARY	Refer to OPERATING INSTRUCTIONS
WHITE BALANCE	COOL
TINT	Center
COLOR	Center
BRIGHT	Center
PICTURE	Maximum
DETAIL	Center
BALANCE	Center
SOUND MODE	DYNAMIC
SOUND TURBO	OFF
AI VOLUME	ON
MTS	STEREO
FAVORITE CH RED	CH02
FAVORITE CH GREEN	CH03
FAVORITE CH YELLOW	CH04
FAVORITE CH BLUE	CH05
AI ECO SENSOR	OFF
AI ECO DISPLAY	ON

Table 3

■ **SERVICE MENU SETTING ITEMS**

Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT
2. V/C	1. SCREEN 2. CUTOFF(B/G) 3. WDR(R/G/B) 4. BRIGHT(TV/VDO 1/2/3) 5. CONT(TV/VDO 1/2/3/TV 16:9/VDO 16:9) 6. COLOUR(TV/VDO1/2/3/DVD) 7. TINT(TV/VDO 1/2/3) 8. SHARP [Do not adjust] 9. Y DELAY [Do not adjust] 10. TINT DVD [Do not adjust] 11. AMP T. SHARP
3. AUDIO **[Do not adjust]**	1. DCXO ADJ 2. NICAM lower ERRLIM 3. NICAM upper ERRLIM 4. A2 ID THR 5. MENU EQUALIZER
4. DEF	1. V-SHIFT 2. V-SLOPE 3. V-SIZE 4. H-CENT 5. H-SIZE 6. TRAPEZ 7. EW-PIN 8. COR-UP 9. COR-LO 10. ANGLE 11. BOW 12. V-S.CR 13. V-LIN 14. V-ZOOM 15. V-SCROLL
5. VSM W/B **(BRIGHT/STANDARD/SOFT)** **(COOL/WARM/NORMAL)**	1. BRIGHT 2. CONT 3. COLOUR 4. SHARP 5. HUE 1. R DRIVE 2. G DRIVE 3. B DRIVE
6. STATUS **[Display only]**	
7. PLUG & PLAY(ON) **[Display only]**	

Table 4

3.3 REPLACEMENT OF CHIP COMPONENT

3.3.1 CAUTIONS

(1) Avoid heating for more than 3 seconds.
(2) Do not rub the electrodes and the resist parts of the pattern.
(3) When removing a chip part, melt the solder adequately.
(4) Do not reuse a chip part after removing it.

3.3.2 SOLDERING IRON

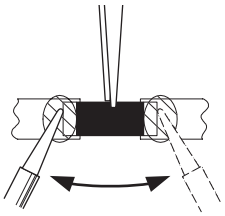
(1) Use a high insulation soldering iron with a thin pointed end of it.
(2) A 30w soldering iron is recommended for easily removing parts.

3.3.3 REPLACEMENT STEPS

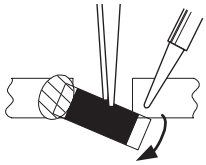
1. How to remove Chip parts

[Resistors, capacitors, etc.]

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



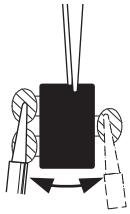
(2) Shift with the tweezers and remove the chip part.



[Transistors, diodes, variable resistors, etc.]

(1) Apply extra solder to each lead.

(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



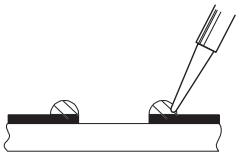
NOTE :

After removing the part, remove remaining solder from the pattern.

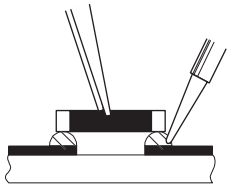
2. How to install Chip parts

[Resistors, capacitors, etc.]

(1) Apply solder to the pattern as indicated in the figure.

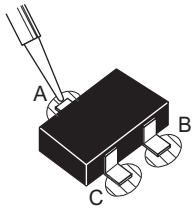


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

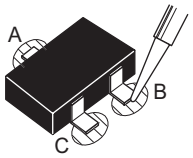


[Transistors, diodes, variable resistors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SECTION 4
ADJUSTMENT

4.1 ADJUSTMENT PREPARATION

(1) **You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.**
(2) **Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values used for setting the screen to its optimum condition may differ from the initial settings.**
(3) Make sure that AC power is turned on correctly.
(4) Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
(5) Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
(6) Never touch any adjustment parts, which are not specified in the list for this variable resistors, transformers, trimmer capacitors, etc.

4.2 PRESETTING BEFORE ADJUSTMENT

Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

■ **User mode setting position**

Setting item	Setting value
PICTURE MODE (VSM)	BRIGHT
TINT, COLOR, BRIGHT,DETAIL	Center
PICTURE	Maximum
VNR	OFF
AI ECO SENSOR	OFF
BALANCE	Center
SOUND TURBO	OFF
CINEMA SURROUND	OFF
COMPRESS	4:3

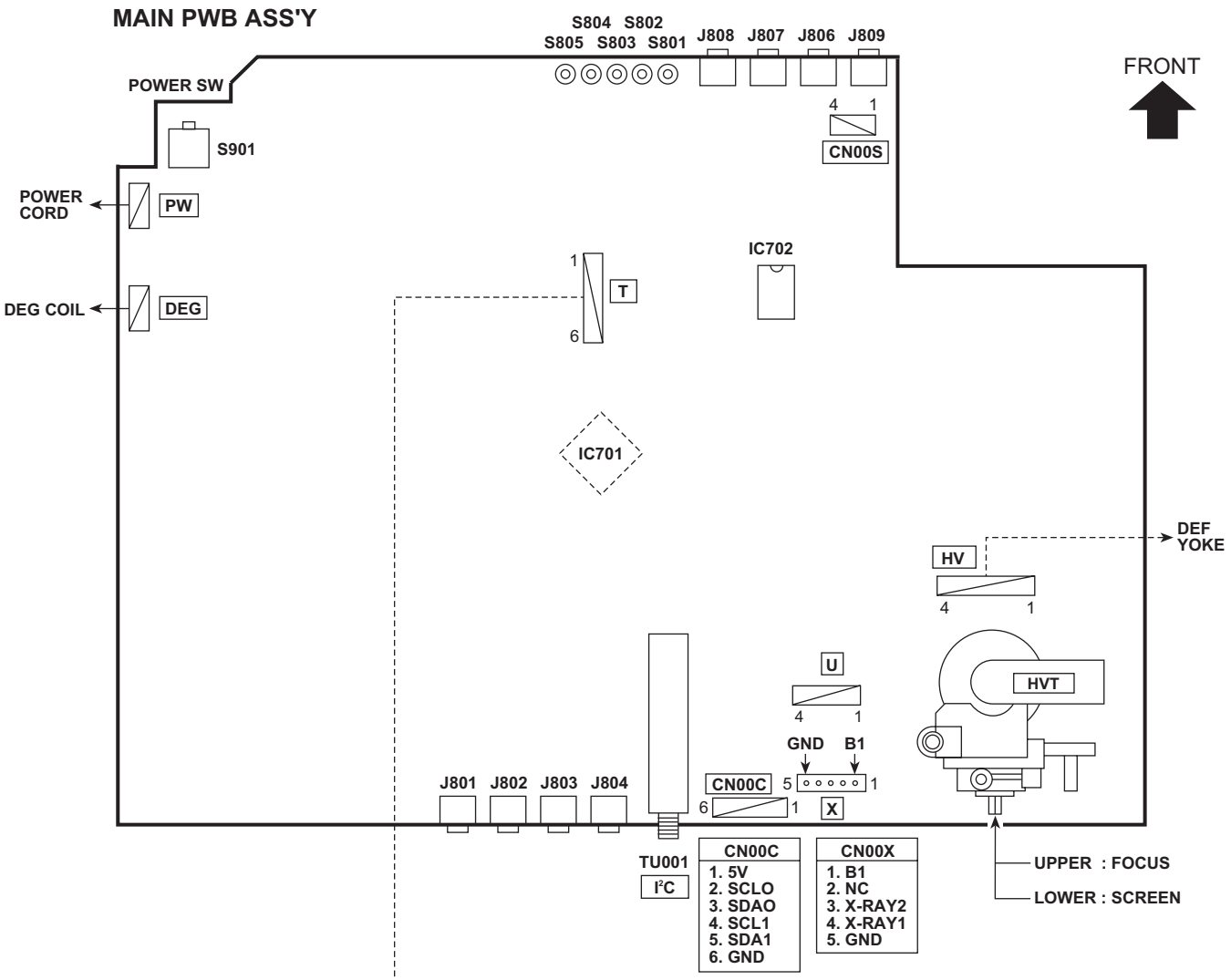
4.3 MEASURING INSTRUMENT AND FIXTURES

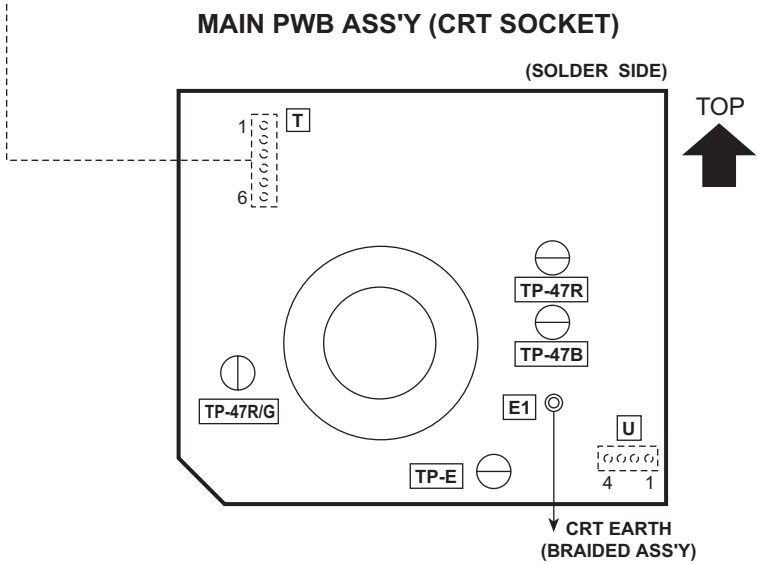
(1) DC voltmeter (or Digital voltmeter)
(2) Oscilloscope
(3) Signal generator (Pattern generator) [PAL/SECAM/NTSC]
(4) Remote control unit

4.4 ADJUSTMENT ITEMS

■ B1 VOLTAGE
■ FOCUS ADJUSTMENT
■ IF CIRCUIT ADJUSTMENTS
• IF VCO adjustment
• DELAY POINT (AGC TAKE-OVER) adjustment
■ VIDEO CIRCUIT ADJUSTMENTS
• WHITE BALANCE (Low light) adjustment
• WHITE BALANCE (High light) adjustment
• SUB BRIGHT adjustment
• SUB CONTRAST adjustment
• SUB COLOR 1 adjustment
• SUB COLOR 2 adjustment
• SUB TINT 1 adjustment
• SUB TINT 2 adjustment
■ AUDIO SETTING
■ DEFLECTION CIRCUIT ADJUSTMENTS
• V.SLOPE adjustment
• V.POSITION adjustment
• V.HEIGHT adjustment
• H.POSITION adjustment
• H. WIDTH adjustment
• SIDE PIN adjustment
• TRAPEZIUM adjustment
• V.LINEARITY adjustment
• V.S-CURVE adjustment
• CORNER adjustment
• H. PARALLEL adjustment
• H.BOW adjustment
■ VSM PRESET SETTING
■ CONVERGENCE ADJUSTMENTS
• STATIC CONVERGENCE adjustment
• DYNAMIC CONVERGENCE adjustment

4.5 ADJUSTMENT LOCATIONS





4.6 BASIC OPERATION IN SERVICE MENU

Operate the SERVICE MENU with the remote control unit.

4.6.1 SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings:

1. IF	For entering/adjusting the setting values (adjustment values) of the IF circuit.
2. V/C	For entering/adjusting the setting values (adjustment values) of the VIDEO circuit.
3. AUDIO	For entering/adjusting the setting values (adjustment values) of the AUDIO circuit.
4. DEF	For entering/adjusting the setting values (adjustment values) of the DEFLECTION circuit.
5. VSM W/B	For setting the values of STANDARD, SOFT, BRIGHT and COOL, NORMAL, WARM.
6. STATUS	This is not used for service.
7. PLUG & PLAY (ON)	This is not used for service.

4.6.2 BASIC OPERATION IN SERVICE MENU

1. HOW TO ENTER SERVICE MENU

Press the [DISPLAY] key and the [PICTURE MODE] key on the remote control unit simultaneously.
The SERVICE MENU screen will be displayed. (See Fig. 1 on the next page.)

2. SELECTION OF SUB MENU SCREEN

Press one of the keys 1 to 6 on the remote control unit, and select the SUB MENU SCREEN from the SERVICE MENU. (See Fig.1 on the next page.)
SERVICE MENU → SUB MENU

1. IF
2. V/C
3. AUDIO
4. DEF
5. VSM W/B
6. STATUS
7. PLUG & PLAY (ON)

3. METHOD OF SETTING

NOTES:

- Once the setting values are set, they are memorized automatically.
- It must not be adjusted without inputting a signal.

(1) 1. IF

[1.VCO] : Under normal conditions, no adjustment is required.

(a) [1] key	Select **1. IF**.
(b) [1] key	Select **1. VCO**.
(c) [DISPLAY] key	When this is pressed twice, you will return to the SERVICE MENU.

[2.DELAY POINT]

(a) [1] key	Select **1. IF**.
(b) [2] key	Select **2. DELAY POINT**.
(c) MENU [◀] / [▶] key	Adjust the setting value.
(d) [DISPLAY] key	When this is pressed twice, you will return to the SERVICE MENU.

(2) 2. V/C, 3. AUDIO and 4. DEF

(a) [2] ~[4] keys	Select one from **2. V/C**, **3. AUDIO** and **4. DEF**
(b) MENU [▲] / [▼] key	Select setting items.
(c) MENU [◀] / [▶] key	Adjust the setting values of the setting items. Use the number keys on the remote control unit for setting the WHITE BALANCE. For the setting, refer to each item concerned.
(d) [DISPLAY] key	When this is pressed, you will return to the SERVICE MENU.

(3) 5. VSM W/B

(a) [5] keys	Select **5. VSM W/B**.
(b) MENU [OK] key	Select preset items.
(c) MENU [▲] / [▼] key	Adjust setting items.
(d) MENU [◀] / [▶] key	Adjust the setting values of the setting items.
(e) [DISPLAY] key	When this is pressed, you will return to the SERVICE MENU.

(4) 6. STATUS

This is for display only.

(5) 7. PLUG & PLAY (ON)

This is not used for service.

4. Release of SERVICE MENU

After completing the setting, return to the SERVICE MENU by pressing the [DISPLAY] key, then again press the [DISPLAY] key to return to the normal screen.

4.6.3 SERVICE MENU FLOW CHART

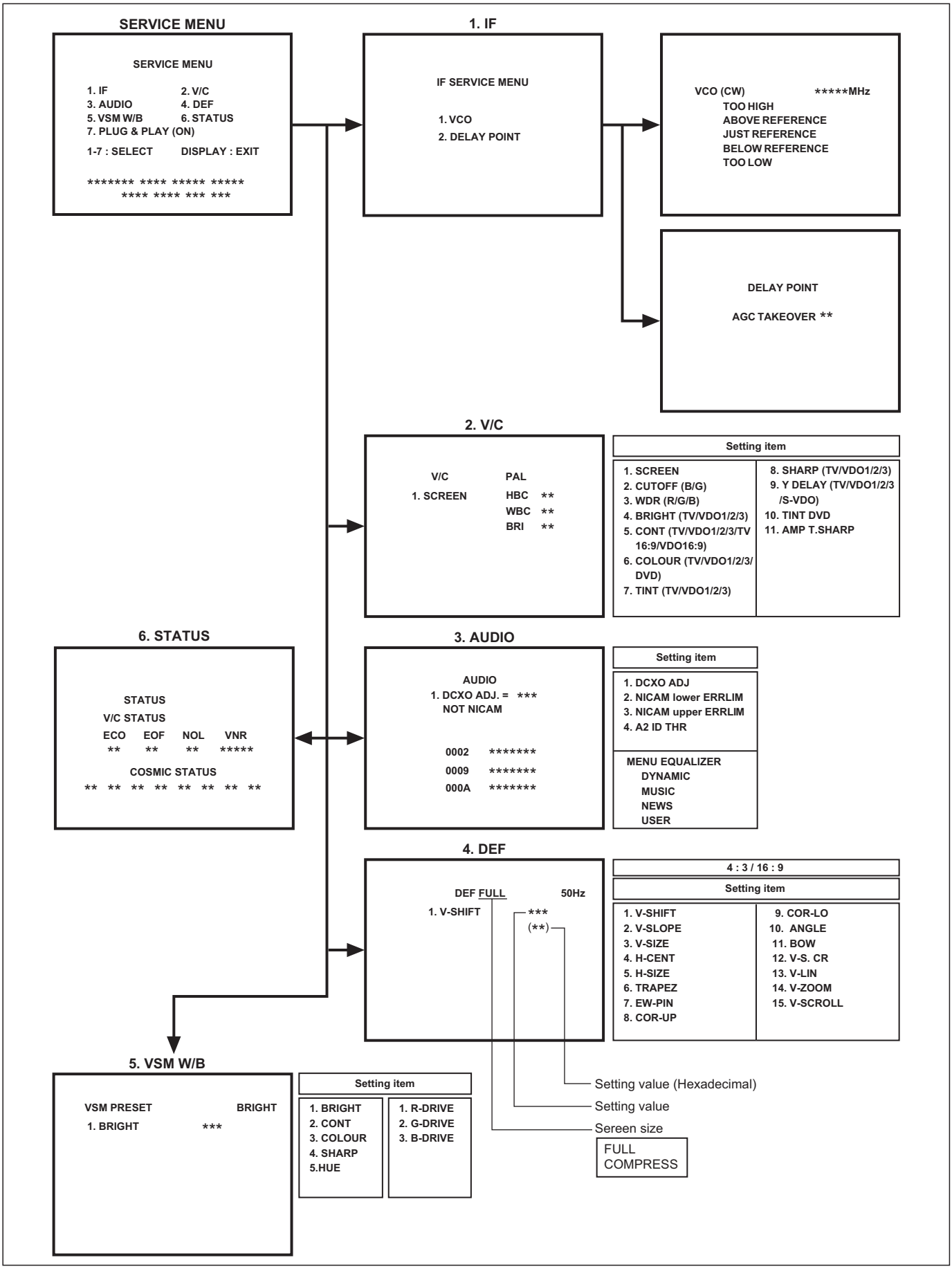


Fig.1

4.7 ADJUSTMENT PROCEDURE

4.7.1 B1 VOLTAGE

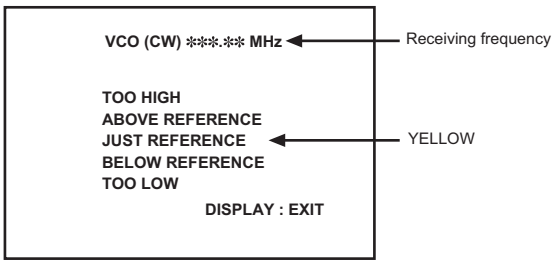
Item	Measuring instrument	Test point	Adjustment part	Description
B1 VOLTAGE check	Signal generator DC voltmeter	B1 (pin 1) GND (pin 5) [CN00X connector in MAIN PWB]		(1) Receive a black and white signal. (2) Connect a DC voltmeter between B1 and GND (between pins 1 and 5 of the connector CN00X). (3) Make sure that the voltage is **DC134.5V ± 2V**.

4.7.2 FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS adjustment	Signal generator		FOCUS VR [In HVT]	**Notes:** • Set PICTURE MODE (VSM) to "BRIGHT". • The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is affected by the FOCUS adjustment.) If any aeviation in CONVERGENCE is found, PURITY must be adjusted to restore the convergence. (1) Receive a crosshatch signal. (2) Adjust the **FOCUS VR** so that the vertical and horizontal lines will be clear and in fine detail on the screen. (3) Make sure that the picture is in focus even when the screen gets darkened.

4.7.3 IF CIRCUIT ADJUSTMENTS

Item	Measuring instrument	Test point	Adjustment part	Description
IF VCO check	Remote control unit		[1. IF] 1. VCO (CW)	**Note:** • Under normal conditions, no adjustment is required. (1) Receive a broadcast signal. (2) Select **1. IF** from the SERVICE MENU. (3) Select **1. VCO**. (4) Check the characters color of the **JUST REFERENCE** displayed to **yellow**. (5) Press the [DISPLAY] key three times to return to normal screen.



Item	Measuring instrument	Test point	Adjustment part	Description
DELAY POINT (AGC TAKE-OVER) adjustment	Remote control unit		[1. IF] 2. DELAY POINT	(1) Receive a black and white broadcast signal (color off). (2) Select **1. IF** from the SERVICE MENU. (3) Select **2. DELAY POINT**. (4) Adjust in order to eliminate any noise or beat from the image. Any increase above the initial value produces the noise and any decrease below it produces the beat. (5) Press the [DISPLAY] key three times to return to the normal screen. (6) Turn to other channels and make sure that there are no irregularities.

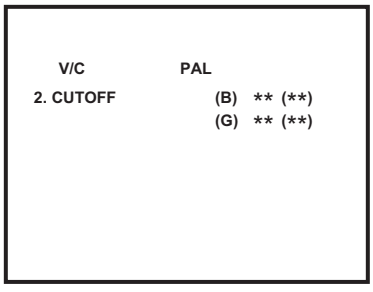
Adjustment item	Initial setting value			
	NTSC 3.58		OTHERS	
	VHF	UHF	VHF	UHF
2. DELAY POINT (AGC TAKE-OVER)	28	28	28	28

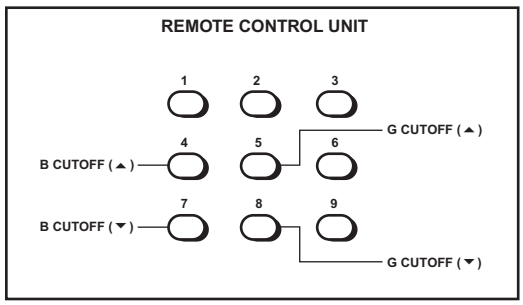
4.7.4 VIDEO CIRCUIT ADJUSTMENTS

- The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- Do not change the initial setting values of the setting (adjustment) items not listed in "ADJUSTMENT PROCEDURE".
- The initial setting values in parenthesis ( ) are fixed offset values, needing no further adjustment.

Adjustment item		Variable range	Initial setting value				
			PAL-N	PAL-M	NTSC3.58	COMPONENT (V-2)	
						525i	625i
1. SCREEN	BRI	0 ~ 63	32	32	32	32	32
2. CUTOFF	B	0 ~ 63 (-32 ~ +31)	11	11	11	(-3)	(-3)
	G	0 ~ 63 (-32 ~ +31)	7	7	7	(-5)	(-5)
3. WDR	R	0 ~ 63 (-32 ~ +31)	32	32	32	(0)	(0)
	G	0 ~ 63 (-32 ~ +31)	32	32	32	(0)	(0)
	B	0 ~ 63 (-32 ~ +31)	45	45	45	(0)	(0)
4. BRIGHT	RF	0 ~ 63 (-32 ~ +31)	39	39	39	---	---
	VIDEO 1(COMPOSITE/S)	(-32 ~ +31)	(+1)	(+1)	(+1)	---	---
	VIDEO 2(COMPONENT)	(-32 ~ +31)	(+1)	(+1)	(+1)	(+2)	(+2)
	VIDEO 3(COMPOSITE)	(-32 ~ +31)	(+1)	(+1)	(+1)	---	---
5. CONT.	RF	0 ~ 63	32	32	32	---	---
	VIDEO	(-32 ~ +31)	(-3)	(-3)	(-3)	(-2)	(-2)
	RF 16:9	(-32 ~ +31)	(-2)	(-2)	(-2)	---	---
	VIDEO 16:9	(-32 ~ +31)	---	---	---	---	---
6. COLOUR	RF	0 ~ 63 (-32 ~ +31)	42	32	37	---	---
	VIDEO	0 ~ 63 (-32 ~ +31)	(+2)	(+4)	(+1)	(+5)	(+2)
7. TINT	RF	0 ~ 63 (-32 ~ +31)	---	---	27	---	---
	VIDEO	(-32 ~ +31)	---	---	(+1)	---	---
8. SHARP	RF	0 ~ 63	54	54	54	---	---
	VIDEO	0 ~ 63	54	54	54	40	40
9. Y DELAY	RF	0 ~ 15	7	7	3	---	---
	VIDEO	0 ~ 15	7	7	7	---	---
	S-VIDEO	0 ~ 15	7	10	7	---	---
10. TINT DVD	VIDEO, S-VIDEO	0 ~ 63	36	38	32	---	---
	COMPONENT	(-32 ~ +31)	---	---	---	(0)	(-4)
11. AMP T.SHARP	RF, VIDEO	0 ~ 63	0	0	0	0	0

Item	Measuring instrument	Test point	Adjustment part
WHITE BALANCE (Low light) adjustment	Signal generator Remote control unit		[2. V/C] 2. CUTOFF (B) 2. CUTOFF (G) SCREEN VR [In HVT]





Description

Note:
- Set PICTURE MODE (VSM) to "BRIGHT".

- COMPOSITE WHITE BALANCE -

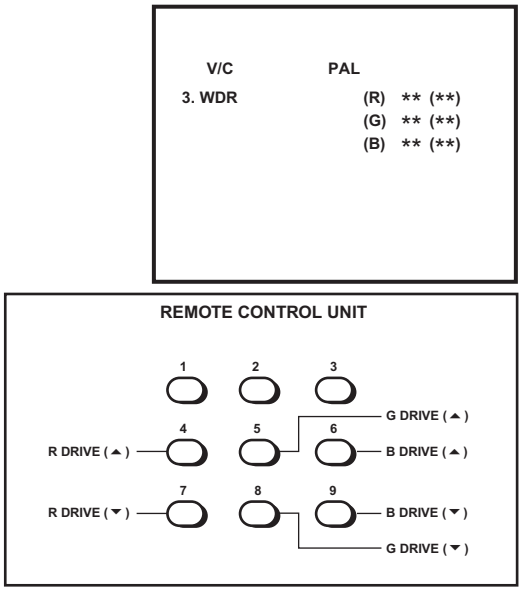
(1) Receive a PAL black and white signal (color off).
(2) Select **2. V/C** from the SERVICE MENU.
(3) Select **2. CUTOFF (B)** and **(G)**.
(4) Set each value to initial setting value with the **[4]** / **[7]** keys and **[5]** / **[8]** keys.
(5) Turn the **SCREEN VR** fully counterclockwise, then slowly turn it clockwise to where a red, blue or green color is faintly visible.
(6) Use the **[4]** / **[7]** and **[5]** / **[8]** keys to adjust so that the other 2 colors appear white.
(7) Turn the **SCREEN VR** to where the single horizontal line glows faintly.
(8) Press the [DISPLAY] key twice to return to the normal screen.

- COMPONENT WHITE BALANCE -

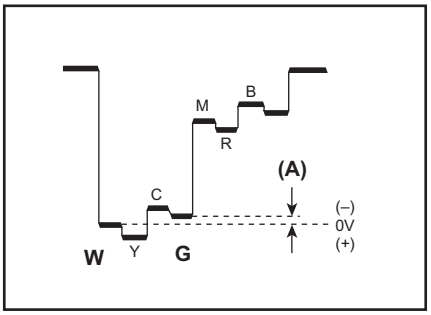
(1) Receive a PAL component black and white signal (color off).
(2) Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT.
(3) Adjust COMPONENT WHITE BALANCE in the same way as "COMPOSITE WHITE BALANCE".

Adjustment Item		Variable range	Initial setting value	
			COMPOSITE	COMPONENT
2. CUT OFF	B	0 ~ 63(-32~+31)	11	(-3)
	G	0 ~ 63(-32~+31)	7	(-5)

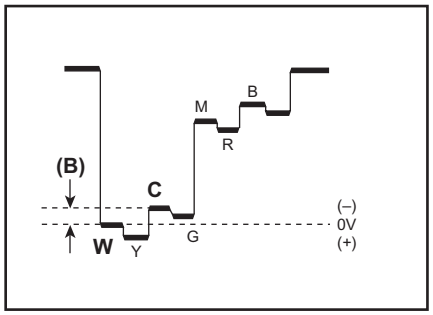
<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>WHITE BALANCE (High light) adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[2. V/C]
3. WDR (R)
3. WDR (G)
3. WDR (B)</td><td rowspan="2">Notes:
• Proceed to the following adjustment after having completed the WHITE BALANCE (Low light) adjustment.
• Set PICTURE MODE (VSM) to "BRIGHT".
(1) Receive a PAL black and white signal (color off).
(2) Select 2. V/C from the SERVICE MENU.
(3) Select 3. WDR (R), (G) and (B).
(4) Set each value to initial setting value with the [4] to [9] keys.
(5) Use the [4] to [9] keys to produce a white screen.
(6) Press the [DISPLAY] key twice to return to the normal screen.
<table><tr><th colspan="2">Adjustment Item</th><th>Variable range</th><th>Initial setting value</th></tr><tr><td rowspan="3">3. WDR</td><td>R</td><td>0 ~ 63</td><td>32</td></tr><tr><td>G</td><td>0 ~ 63</td><td>32</td></tr><tr><td>B</td><td>0 ~ 63</td><td>45</td></tr></table></td></tr>
<tr><td colspan="4"> 
</td></tr>
<tr><td>SUB BRIGHT adjustment</td><td>Remote control unit</td><td></td><td>[2. V/C]
4. BRIGHT</td><td>Notes:
• Proceed to the following adjustment after having completed the WHITE BALANCE (Low light) and WHITE BALANCE (High light) adjustment.
• Set PICTURE MODE (VSM) to "BRIGHT".
(1) Receive a broadcast.
(2) Select 2. V/C from the SERVICE MENU.
(3) Select 4. BRIGHT.
(4) Set the initial setting value.
(5) If the brightness is not best with the initial setting value, make fine adjustment until you get the best brightness.
(6) Press the [DISPLAY] key twice to return to the normal screen.</td></tr>
<tr><td>SUB CONTRAST adjustment</td><td>Remote control unit</td><td></td><td>[2. V/C]
5. CONT</td><td>Notes:
• Proceed to the following adjustment after having completed the SUB BRIGHT adjustment.
• Set PICTURE MODE (VSM) to "BRIGHT".
(1) Receive a broadcast.
(2) Select 2. V/C from the SERVICE MENU.
(3) Select 5. CONT.
(4) Set the initial setting value.
(5) If the contrast is not best with the initial setting value, make fine adjustment until you get the best contrast.
(6) Press the [DISPLAY] key twice to return to the normal screen.</td></tr>
</table>

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR 1 adjustment	Remote control unit		[2. V/C] 6. COLOUR	**[Method of adjustment without measuring instrument]** **Notes:** • Proceed to the following adjustment after having completed the SUB CONTRAST adjustment. • Set PICTURE MODE (VSM) to "BRIGHT". **- PAL-M COLOR -** (1) Receive a PAL-M broadcast. (2) Select **2. V/C** from the SERVICE MENU. (3) Select **6. COLOUR**. (4) Set the initial setting value for PAL-M COLOR. (5) If the color is not best with the initial setting value, adjust until you get the best color. (6) Press the [DISPLAY] key twice to return to the normal screen. **- PAL-N COLOR -** (1) Receive a PAL-N broadcast. (2) Press the [COLOR SYSTEM] key to select the PAL-N color system. (3) Adjust PAL-N COLOR in the same way as for "PAL-M COLOR". **- SECAM COLOR -** (1) Receive a SECAM broadcast. (2) Press the [COLOR SYSTEM] key to select the SECAM color system. (3) Adjust SECAM COLOR in the same way as for "PAL-M COLOR". **- NTSC 3.58 COLOR -** (1) Receive a NTSC 3.58MHz broadcast. (2) Press the [COLOR SYSTEM] key to select the NTSC 3.58 color system. (3) Adjust NTSC 3.58 COLOR in the same way as for "PAL-M COLOR".

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR 2 adjustment	Signal generator Oscilloscope Remote control unit	TP-47G TP-E [CRT SOCKET PWB]	[2. V/C] 6. COLOUR	**[Method of adjustment using measuring instrument]** **Notes:** • Proceed to the following adjustment after having completed the SUB CONTRAST adjustment. • Set PICTURE MODE (VSM) to "BRIGHT". **- PAL-M COLOR -** (1) Receive a PAL-M color bar signal (full field color bar 75% white). (2) Select **2. V/C** from the SERVICE MENU. (3) Select **6. COLOUR**. (4) Set the initial setting value of PAL-M COLOR. (5) Connect the oscilloscope between TP-47G and TP-E. (6) Adjust PAL-M COLOR to set the value **(A)** in the figure to **+13V**. **- PAL-N COLOR -** (1) Receive a PAL-N color bar signal (full field color bar 75% white). (2) Select **2. V/C** from the SERVICE MENU. (3) Select **6. COLOUR**. (4) Set the initial setting value of PAL-N COLOR. (5) Connect the oscilloscope between TP-47G and TP-E. (6) Adjust PAL-N COLOR to set the value **(A)** in the figure to **+13V**. **- SECAM COLOR -** (1) Receive a SECAM color bar signal (color bar 75% white). (2) Press the [COLOR SYSTEM] key to select the SECAM color system. (3) Set the initial setting value of SECAM COLOR. (4) Adjust SECAM COLOR to set the value **(A)** in the figure to **---**. **- NTSC 3.58 COLOR -** (1) Receive a NTSC 3.58 color bar signal (full field color bar 75% white). (2) Press the [COLOR SYSTEM] key to select the NTSC 3.58 color system. (3) Set the initial setting value of NTSC 3.58 COLOR. (4) Adjust NTSC 3.58 COLOR to set the value **(A)** in the figure to **+5V**.
				
SUB TINT 1 adjustment	Signal generator Remote control unit		[2. V/C] 7. TINT	**[Method of adjustment without measuring instrument]** **Notes:** • Proceed to the following adjustment after having completed the SUB CONTRAST adjustment. • Set PICTURE MODE (VSM) to "BRIGHT". **- NTSC 3.58 TINT -** (1) Receive a NTSC 3.58 color bar signal (full field color bar 75% white). (2) Press the [COLOR SYSTEM] key to select the NTSC 3.58 color system. (3) Select **2. V/C** from the SERVICE MENU. (4) Select **7. TINT**. (5) Set the initial setting value of NTSC 3.58. (6) If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. (7) Press the [DISPLAY] key twice to return to the normal screen.

Item	Measuring instrument	Test point	Adjustment part	Description
SUB TINT 2 adjustment	Signal generator Oscilloscope Remote control unit	TP-47G TP-E [CRT SOCKET PWB]	[2. V/C] 7. TINT	**[Method of adjustment using measuring instrument]** **Notes:** • Proceed to the following adjustment after having completed the SUB CONTRAST adjustment. • Set PICTURE MODE (VSM) to "BRIGHT". **- NTSC 3.58 TINT -** (1) Receive a NTSC 3.58 color bar signal (full field color bar 75% white). (2) Press the [COLOR SYSTEM] key to select the NTSC 3.58 color system. (3) Select **2. V/C** from the SERVICE MENU. (4) Select **7. TINT**. (5) Set the initial setting value of NTSC 3.58. (6) Connect the oscilloscope between TP-47G and TP-E. (7) Adjust NTSC 3.58 TINT to set the value **(B)** in the figure to **+4V**. (8) Press the [DISPLAY] key twice to return to the normal screen.



4.7.5 AUDIO SETTING

This submenu is for display only, no adjustment is required.

Function	Item	100Hz	300Hz	1kHz	3kHz	8kHz
MENU EQUALIZER	DYNAMIC	+4	+3	-10	+3	+4
	MUSIC	+7	+2	+5	+2	+7
	NEWS	-6	+1	+6	+1	-6
	USER	0	0	0	0	0

4.7.6 DEFLECTION CIRCUIT ADJUSTMENTS

- The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- When performing deflection circuit adjustment, adjusts PAL signal (fv: 50 Hz) in 4:3 mode and 16:9 mode respectively, and adjust the NTSC signal (fv: 60 Hz) similarly.

Note:

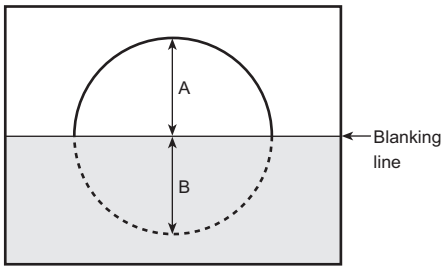
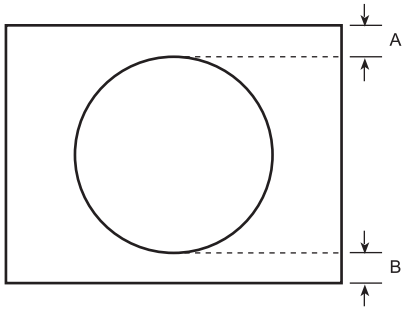
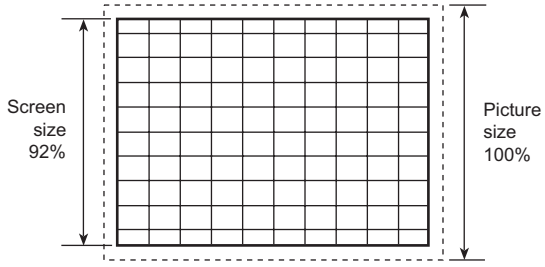
Proceed to the following adjustment after having completed the adjustments of SUB BRIGHT and SUB PICTURE.

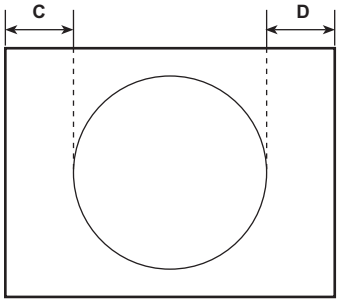
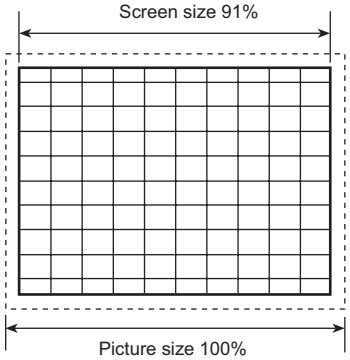
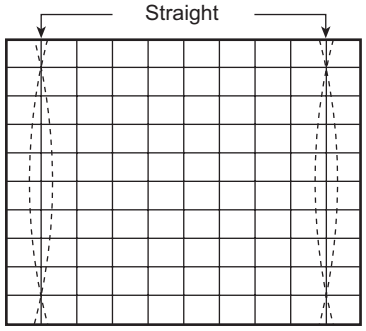
■ 4. DEF

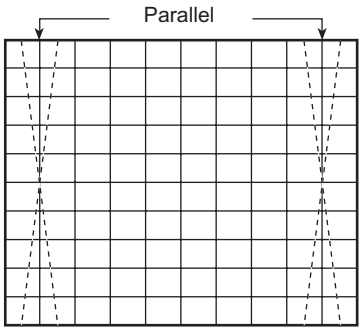
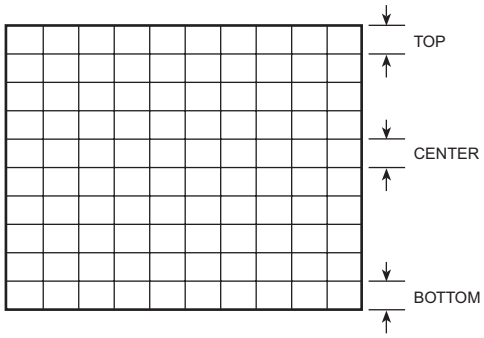
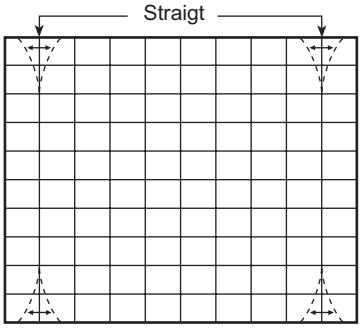
Adjustment item	Variable range		Initial setting value			
	4:3 50Hz	Others	4:3		COMPRESS (16:9)	
			50Hz	60Hz	50Hz	60Hz
1. V-SHIFT	0 ~ 63	-32 ~ +31	36	0*	0*	0*
2. V-SLOPE	0 ~ 63	-32 ~ +31	35	0*	0*	0*
3. V-SIZE	0 ~ 63	-32 ~ +31	27	0*	+17	-1
4. H-CENT	0 ~ 63	-32 ~ +31	43	0*	0*	0*
5. H-SIZE	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
6. TRAPEZ	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
7. EW-PIN	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
8. COR-UP	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
9. COR-LO	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
10. ANGLE	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
11. BOW	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
12. V-S.CR	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
13. V-LIN	0 ~ 63	-32 ~ +31	+32	0*	0*	0*
14. V-ZOOM	0 ~ 63	-32 ~ +31	(+25)	0	-13	+4
15. V-SCROLL	0 ~ 63	-32 ~ +31	(+32)	(0)	(0)	(0)

NOTE: The value with an asterisk * is variable for adjustment. The values in parenthesis ( ) are fixed values.

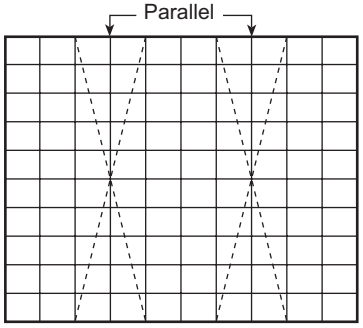
■ **COMPRESS: OFF (4:3)**

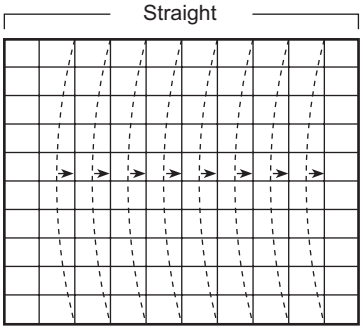
Item	Measuring instrument	Test point	Adjustment part	Description
V. SLOPE adjustment	Signal generator Remote control unit		[4. DEF] 2. V-SLOPE	**- PAL V. SLOPE -** (1) Receive a PAL circle pattern signal of vertical frequency 50Hz. (2) Select **4. DEF** from the SERVICE MENU. (3) Select **2. V-SLOPE**. (4) Set the initial setting value of **2. V-SLOPE**. (5) Adjust **2. V-SLOPE** to make "**A = B**". (6) Press the [DISPLAY] key twice to return to SERVICE MENU screen. **- NTSC V. SLOPE -** (1) Receive a NTSC circle pattern signal of vertical frequency 60Hz. (2) Make similar adjustment of NTSC V-SLOPE in the same way as for "PAL V-SLOPE".
				
V. POSITION adjustment	Signal generator Remote control unit		[4. DEF] 1. V-SHIFT	**- PAL V. POSITION -** (1) Receive a PAL circle pattern signal of vertical frequency 50Hz. (2) Select **1. V-SHIFT**. (3) Set the initial setting value of **1. V-SHIFT**. (4) Adjust **1. V-SHIFT** to make "**A = B**". **- NTSC V. POSITION -** (1) Receive a NTSC circle pattern signal of vertical frequency 60Hz. (2) Make similar adjustment of NTSC V. POSITION in the same way as for "PAL V. POSITION".
				
V. HEIGHT adjustment	Signal generator Remote control unit		[4. DEF] 3. V-SIZE 14. V-ZOOM	**- PAL V. HEIGHT -** (1) Receive a PAL crosshatch signal. (2) Select **3. V-SIZE**. (3) Set the initial setting value of **3. V-SIZE**. (4) Select **14. V-ZOOM**. (5) Set the initial setting value of **14. V-ZOOM**. (6) Adjust **14. V-ZOOM** to make the vertical screen size to 92% of the picture size. **- NTSC V. HEIGHT -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC V. HEIGHT in the same way as for "PAL V. HEIGHT".
				

Item	Measuring instrument	Test point	Adjustment part	Description
H. POSITION adjustment	Signal generator Remote control unit		[4. DEF] 4. H-CENT	**- PAL H. POSITION -** (1) Receive a PAL circle pattern signal. (2) Select **4. H-CENT**. (3) Set the initial setting value of **4. H-CENT**. (4) Adjust **4. H-CENT** to make "**C = D**". **- NTSC H. POSITION -** (1) Receive a NTSC circle pattern signal. (2) Make similar adjustment of NTSC H. POSITION in the same way as for "PAL H. POSITION".
				
H. WIDTH adjustment	Signal generator Remote control unit		[4.DEF] 5. H-SIZE	**- PAL H. WIDTH -** (1) Receive a PAL crosshatch signal. (2) Select **5. H-SIZE**. (3) Set the initial setting value of **5. H-SIZE**. (4) Adjust **5. H-SIZE** to make the horizontal screen size to 91% of the picture size. **- NTSC H. WIDTH -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC H. WIDTH in the same way as for "PAL H. WIDTH".
				
SIDE PIN adjustment	Signal generator Remote control unit		[4. DEF] 7. EW-PIN	**- PAL SIDE PIN -** (1) Receive a PAL crosshatch signal. (2) Select **7. EW-PIN**. (3) Set the initial setting value of **7. EW-PIN**. (4) Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight. **- NTSC SIDE PIN -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC SIDE PIN in the same way as for "PAL SIDE PIN".
				

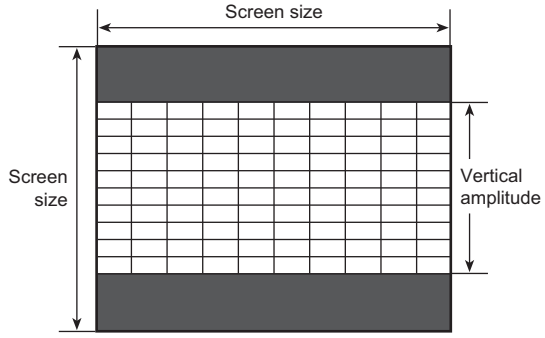
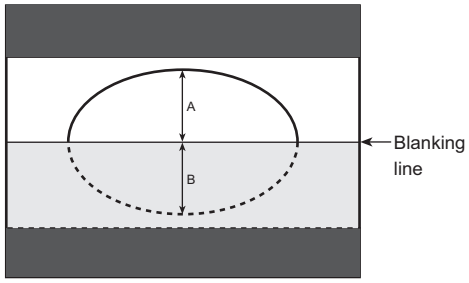
Item	Measuring instrument	Test point	Adjustment part	Description
TRAPEZIUM adjustment	Signal generator Remote control unit		[4.DEF] 6. TRAPEZ	**- PAL TRAPEZIUM -** (1) Receive a PAL crosshatch signal. (2) Select **6. TRAPEZ**. (3) Set the initial setting value of **6. TRAPEZ**. (4) Adjust **6. TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel. **- NTSC TRAPEZIUM -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC TRAPEZIUM in the same way as for "PAL TRAPEZIUM".
				
V.LINEARITY adjustment	Signal generator Remote control unit		[4. DEF] 12. V-S. CR 13. V-LIN	**- PAL V. LINEARITY -** (1) Receive a PAL crosshatch signal. (2) Select **12. V-S.CR**. (3) Set the initial setting value of **12. V-S. CR**. (4) Select **13. V-LIN**. (5) Set the initial setting value of **13. V-LIN**. (6) Adjust **12. V-S. CR** and **13. V-LIN** so that the spaces of each line on TOP, CENTER and BOTTOM become uniform. **- NTSC V. LINEARITY -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC V-S. CR in the same way as for "PAL V-S. CR".
				
CORNER PIN adjustment	Signal generator Remote control unit		[4. DEF] 8. COR-UP 9. COR-LO	**- PAL CORNER PIN -** (1) Receive a PAL crosshatch signal. (2) Select **8. COR-UP**. (3) Set the initial setting value of **8. COR-UP**. (4) Select **9. COR-LO**. (5) Set the initial setting value of **9. COR-LO**. (6) Adjust **8. COR-UP** and **9. COR-LO** so that the vertical lines at the four corners on the screen are straight. **- NTSC CORNER PIN -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC CORNER in the same way as for "PAL CORNER".
				

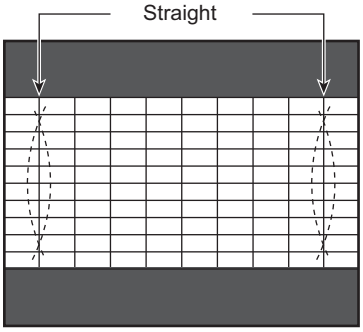
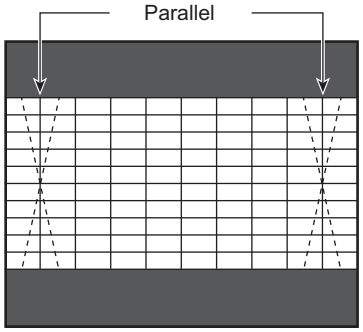
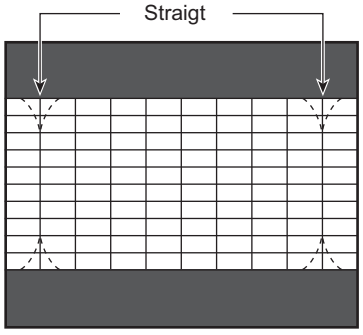
<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>H. PARALLEL adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[4.DEF]
10. ANGLE</td><td rowspan="2">- PAL H. PARALLEL -
(1) Receive a PAL crosshatch signal.
(2) Select 10. ANGLE.
(3) Set the initial setting value of 10. ANGLE.
(4) Adjust 10. ANGLE to optimize the trapezium distortion at the center of the screen.
- NTSC H. PARALLEL -
(1) Receive a NTSC crosshatch signal.
(2) Make similar adjustment of NTSC H. PARALLEL in the same way as for "PAL H. PARALLEL".</td></tr>
<tr><td colspan="4"> 
</td></tr>
<tr><td>H. BOW adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[4.DEF]
11. BOW</td><td rowspan="2">- PAL H. BOW -
(1) Receive a PAL crosshatch signal.
(2) Select 11. BOW.
(3) Set the initial setting value of 11. BOW.
(4) Adjust 11. BOW to optimize the horizontal arc distortion.
- NTSC H. BOW -
(1) Receive a NTSC crosshatch signal.
(2) Make similar adjustment of NTSC H. BOW in the same way as for "PAL H. BOW".
(3) Press the [DISPLAY] key twice to return to the normal screen.</td></tr>
<tr><td colspan="4"> 
</td></tr>
</table>

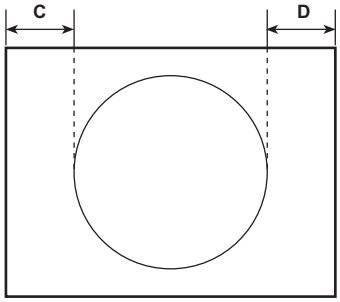
■ **COMPRESS : ON (16:9)**

Item	Measuring instrument	Test point	Adjustment part	Description
V. HEIGHT adjustment	Signal generator Remote control unit		[4.DEF] 14. V. ZOOM 3. V-SIZE	**- PAL V. HEIGHT -** (1) Receive a PAL crosshatch signal of vertical frequency 50Hz. (2) Press the [MENU] key and select **PICTURE**. (3) Select **PICTURE FEATURES**. (4) Select **COMPRESS (16 : 9)** and set COMPRESS to ON. (5) Select **4. DEF** from the SERVICE MENU. (6) Set the initial setting value of **14. V. ZOOM**. (7) Select **3. V-SIZE**. (8) Set the initial setting value of **3. V-SIZE**. (9) Adjust **3. V-SIZE** to set the vertical amplitude of the image to 305mm. **- NTSC V. HEIGHT -** (1) Receive a NTSC crosshatch signal of vertical frequency 60Hz. (2) Make similar adjustment of NTSC V. HEIGHT in the same way as for "PAL V. HEIGHT".
				
V. SLOPE adjustment	Signal generator Remote control unit		[4.DEF] 2. V-SLOPE	**- PAL V. SLOPE -** (1) Receive a PAL circle pattern signal of vertical frequency 50Hz. (2) Select **4. DEF** from the SERVICE MENU. (3) Select **2. V-SLOPE**. (4) Set the initial setting value of **2. V-SLOPE**. (5) Adjust **2. V-SLOPE** to make "**A = B**". (6) Press the [DISPLAY] key to return to SERVICE MENU screen. **- NTSC V. SLOPE -** (1) Receive a NTSC circle pattern signal of vertical frequency 60Hz. (2) Make similar adjustment of NTSC V-SLOPE in the same way as for "PAL V-SLOPE".
				

Item	Measuring instrument	Test point	Adjustment part	Description
SIDE PIN adjustment	Signal generator Remote control unit		[4. DEF] 7. EW-PIN	**- PAL SIDE PIN -** (1) Receive a PAL crosshatch signal. (2) Select **7. EW-PIN**. (3) Set the initial setting value of **7. EW-PIN**. (4) Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight. **- NTSC SIDE PIN -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC SIDE PIN in the same way as for "PAL SIDE PIN".
				
TRAPEZIUM adjustment	Signal generator Remote control unit		[4. DEF] 6. TRAPEZ	**- PAL TRAPEZIUM PIN -** (1) Receive a PAL crosshatch signal. (2) Select **6. TRAPEZ**. (3) Set the initial setting value of **6. TRAPEZ**. (4) Adjust **6. TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel. **- NTSC TRAPEZIUM PIN -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC TRAPEZIUM in the same way as for "PAL TRAPEZIUM".
				
CORNER PIN adjustment	Signal generator Remote control unit		[4. DEF] 8. COR-UP 9. COR-LO	**- PAL CORNER PIN -** (1) Receive a PAL crosshatch signal. (2) Select **8. COR-UP**. (3) Set the initial setting value of **8. COR-UP**. (4) Select **9. COR-LO**. (5) Set the initial setting value of **9. COR-LO**. (6) Adjust **8. COR-UP** and **9. COR-LO** so that the vertical lines at the four corners on the screen are straight. **- NTSC CORNER PIN -** (1) Receive a NTSC crosshatch signal. (2) Make similar adjustment of NTSC CORNER in the same way as for "PAL CORNER". (3) Press the [DISPLAY] key twice to return to the normal screen.
				

■ **VIDEO - 2 SET: COMPONENT**

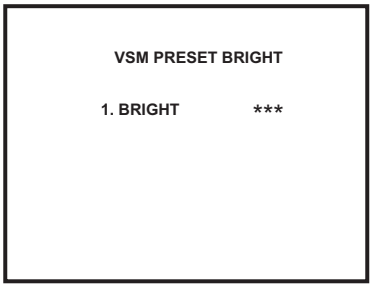
Item	Measuring instrument	Test point	Adjustment part	Description
H. POSITION adjustment	Signal generator Remote control unit		[4. DEF] 4. H-CENT	(1) Receive a PAL circle pattern signal to VIDEO-2 component terminal. (2) Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT. (3) Select **4. DEF** from the SERVICE MENU. (4) Select **4. H-CENT**. (5) Set the initial setting value of **4. H-CENT**. (6) Adjust **4. H-CENT** to make "**C=D**". (7) Press the [DISPLAY] key twice to return to the normal screen.



4.7.7 VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
VSM PRESET setting	Remote control unit		[5. VSM W/B] 1. BRIGHT 2. CONT 3.COLOUR 4. SHARP 5. HUE 1. R-DRIVE 2. G-DRIVE 3. B-DRIVE	(1) Select **5. VSM W/B** from the SERVICE MENU. (2) Select BRIGHT with the MENU [OK] key. (3) Set the value of **1. BRIGHT** ~ **5. HUE** to the values shown in the table. (4) Respectively select the VSM PRESET mode for SOFT and STANDARD. (5) Select COOL with the MENU [OK] key. (6) Set the values of **1. R-DRIVE** ~ **3. B-DRIVE** to the value shown in the table. (7) Select the W/B preset for WARM and NORMAL, respectively. (8) Press the [DISPLAY] key twice to return to the normal screen.

SUB MENU 5. VSM W/B



[Setting Values for SUB 5. VSM W/B]

VSM preset / Setting item	BRIGHT	STANDARD	SOFT
1. BRIGHT	0	+4	+4
2. CONT	+15	+4	+1
3. COLOUR	0	0	0
4. SHARP	0	0	-10
5. HUE	0	0	0
W/B preset / Setting item	**COOL**	**NORMAL**	**WARM**
1. R-DRIVE	0	+2	+10
2. G-DRIVE	0	0	-4
3. B-DRIVE	0	-10	-12

4.7.8 CONVERGENCE

■ STATIC CONVERGENCE ADJUSTMENT

(1) Input a crosshatch signal.

(2) Using 4-pole convergence magnets, overlap the red and blue lines in the center of the screen (Fig.1) and turn them to magenta (red/blue).

(3) Using 6-pole convergence magnets, overlap the magenta (red/blue) and green lines in the center of the screen and turn them to white.

(4) Repeat 2 and 3 above, and make best convergence.

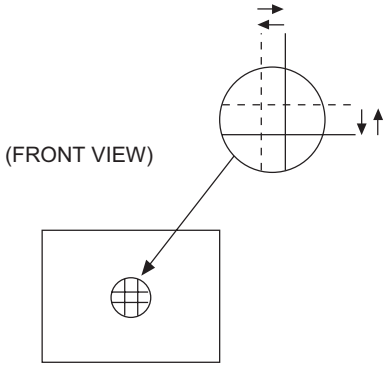


Fig.1

■ DYNAMIC CONVERGENCE ADJUSTMENT

(1) Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 2)

(2) Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 3)

(3) Repeat 1 and 2 above, and make best convergence.

(4) Adjust XV by XV coil. (Fig.4)

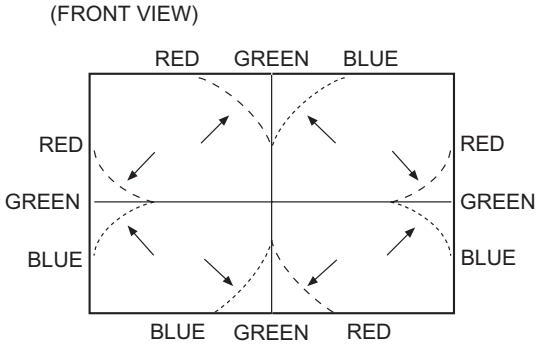


Fig.2

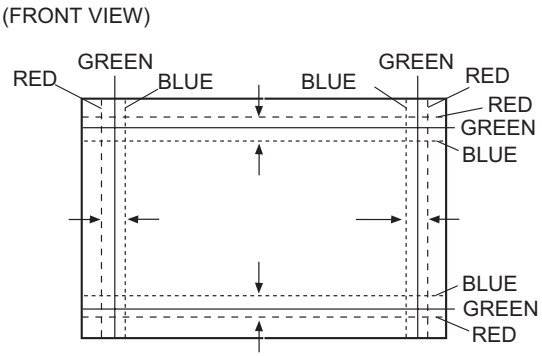


Fig.3

- After adjustment, fix the wedge at the original position. Fasten the retainer screw of the deflection yoke. Fix the P/C magnets with glue.

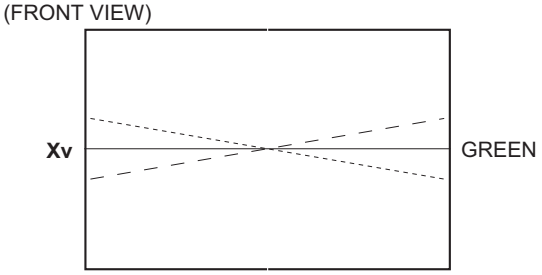


Fig.4

SECTION 5
TROUBLESHOOTING

5.1 SELF CHECK FUNCTIONS

5.1.1 OUTLINE

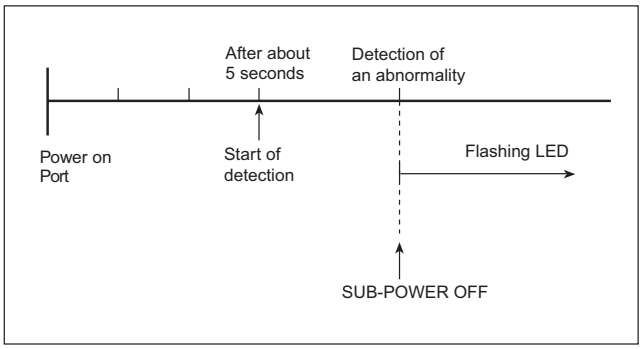
This model has self check functions given below. When an abnormality has been detected, the SUB POWER is turned off and POWER LED flashes to inform of the failure. An abnormality is detected by the signal input state of the control line connected to the microcomputer.

5.1.2 SELF CHECK ITEMS

Check item	Details of detection	Method of detection	State of abnormality
B1 over-current protection	An over-current on the low B1 line is detected.	The main microcomputer detects the possible abnormality at 24-msec. intervals and judges the results in every 16 time. Of the 16 times, if NG is detected more than 9 times, it is judged that there is an abnormality.	When an abnormality has been detected, the SUB-POWER is turned off. While the SUB-POWER is being turned off, the POWER key on the remote control unit is not operational until the power cord is disconnected and connected again.
CRT neck broken protection	Operation of CRT neck protection circuit.		

5.1.3 SELF CHECK INDICATING FUNCTION

When an abnormality has been detected at about 5 seconds after the power was turned on, the SUB POWER is turned off immediately and the POWER LED flashes.



[INDICATION BY THE POWER LED]

Item	LED flashing intervals
B1 over-current protection / CRT neck broken protection	0.3 seconds

JVC
Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY VIDEO DISPLAY CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YA255)

Printed in Japan
VPT

JVC

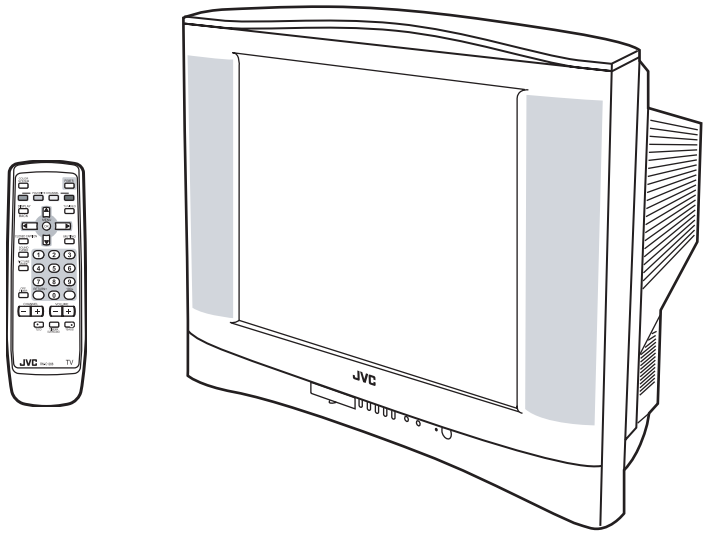
SCHEMATIC DIAGRAMS

FLAT COLOR TELEVISION

AV-25VT15/R

CD-ROM No.SML200504

BASIC CHASSIS
CW



COPYRIGHT © 2005 Victor Company of Japan, Limited

No.YA255
2005/4

AV-25VT15/R

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety ciritical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal	: Colour bar signal
(2)Setting positions of each knob/button and variable resistor	: Original setting position when shipped
(3)Internal resistance of tester	: DC 20kΩ/V
(4)Oscilloscope sweeping time	: H ⇒ 20μs / div
	: V ⇒ 5ms / div
	: Othters ⇒ Sweeping time is specified
(5)Voltage values	: All DC voltage values

∗ Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R209 → R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

No unit	: [Ω]
K	: [kΩ]
M	: [MΩ]

● Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

● Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Uninflammable resistor
FR	: Fusible resistor

∗ Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

● Withstand voltage

No indication	: DC50[V]
Others	: DC withstand voltage [V]
AC indicated	: AC withstand voltage [V]

∗ Electrolytic Capacitors

47/50[Example]: Capacitance value [μF]/withstand voltage[V]

● Type

No indication	: Ceramic capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3)Coils

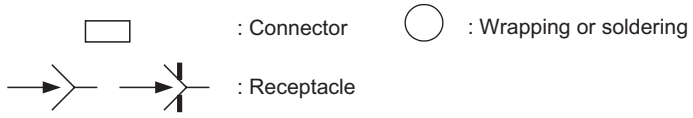
No unit	: [μH]
Others	: As specified

(4)Power Supply

∗ Respective voltage values are indicated

(5)Test point

(6)Connecting method



(7)Ground symbol

⊥ : LIVE side ground

: ISOLATED(NEUTRAL) side ground

: EARTH ground

: DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

NOTE

◆ **Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.**
When ordering parts, please use the numbers that appear in the Parts List.

CONTENTS

SEMICONDUCTOR SHAPES 2-2

USING P.W.BOARD 2-2

BLOCK DIAGRAM 2-3

CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM (1/3) 2-5
MAIN PWB CIRCUIT DIAGRAM (2/3),(3/3) 2-7

PATTERN DIAGRAMS

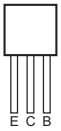
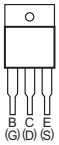
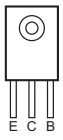
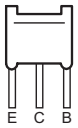
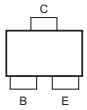
MAIN PWB PATTERN 2-9

VOLTAGE CHARTS 2-11

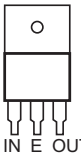
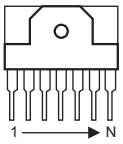
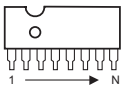
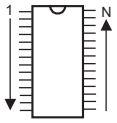
WAVEFORMS 2-12

SEMICONDUCTOR SHAPES

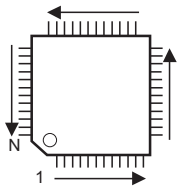
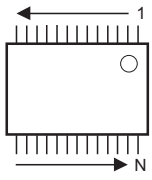
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

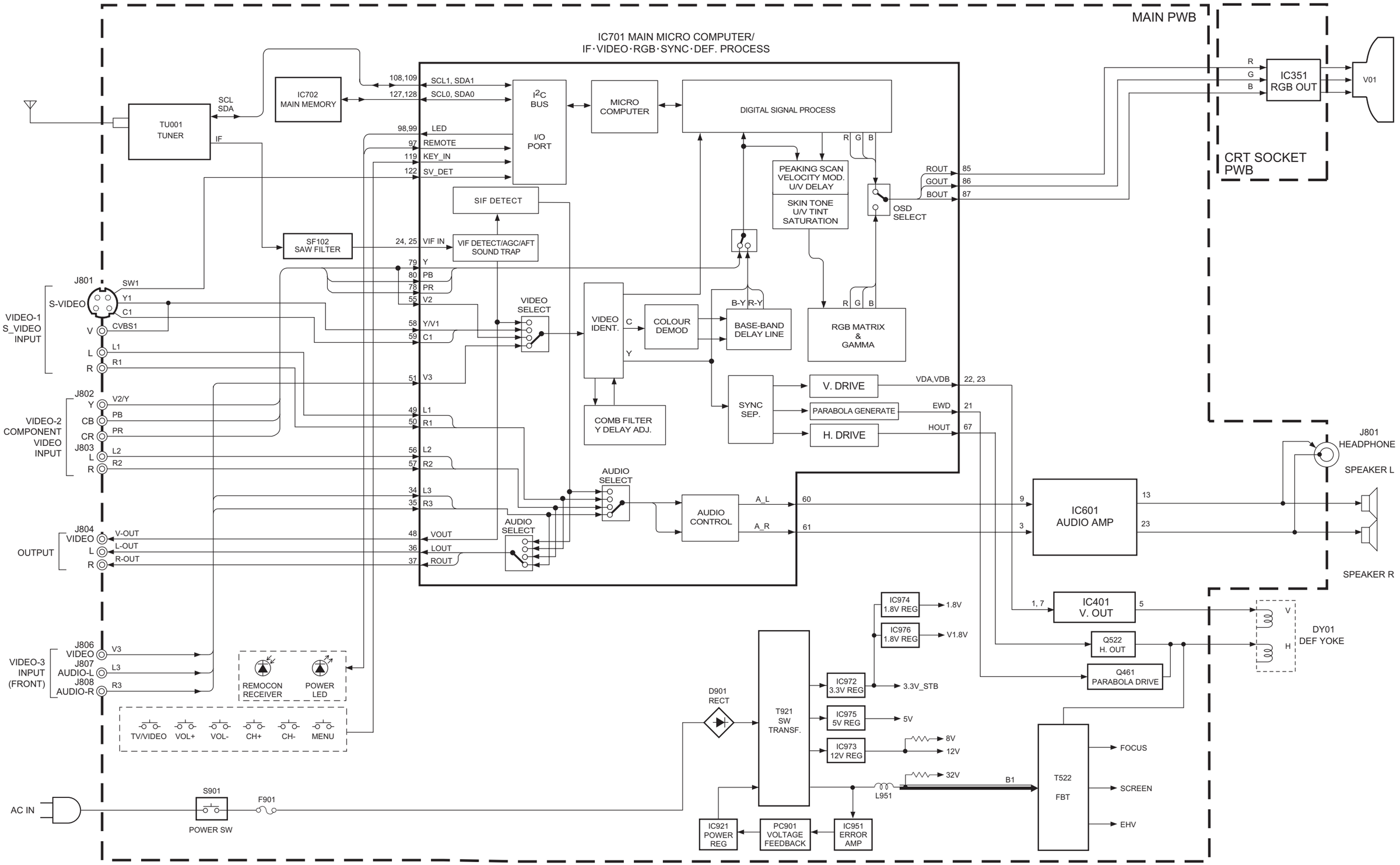
CHIP IC

TOP VIEW		
		

USING P.W.BOARD

P.W. BOARD ASS'Y NAME	AV-25VT15/R
MAIN P.W. BOARD	SCW-1141A-CK

BLOCK DIAGRAM



CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM (1/3)

NOTE
BW : QUY160-050Y
X : NON MOUNT
0 : NRSA63J-0R0X
*1 : 2SC3928A/GR/-X
*2 : 2SA1530A/GR/-X
*3 : MA111-X
*4 : NQL812K-100X
*5 : UN2212-X
*6 : UN2112-X
*7 : KTC3198/YG/-X
*8 : MA8091/H/-X

MAIN MICRO COMPUTER/
IF・VIDEO・RGB・SYNC・DEF.PROCESS

AUDIO AMP

MAIN PWB ASS'Y (3/3)
(CRT SOCKET)
CN00T

VIDEO-3
INPUT

HEADPHONE JACK

SPEAKER
SP01
QAS0139-001
(12 WATTS / 8 OHM) X 2

VIDEO-1
S-VIDEO
INPUT

VIDEO-2
COMPONENT
VIDEO
INPUT

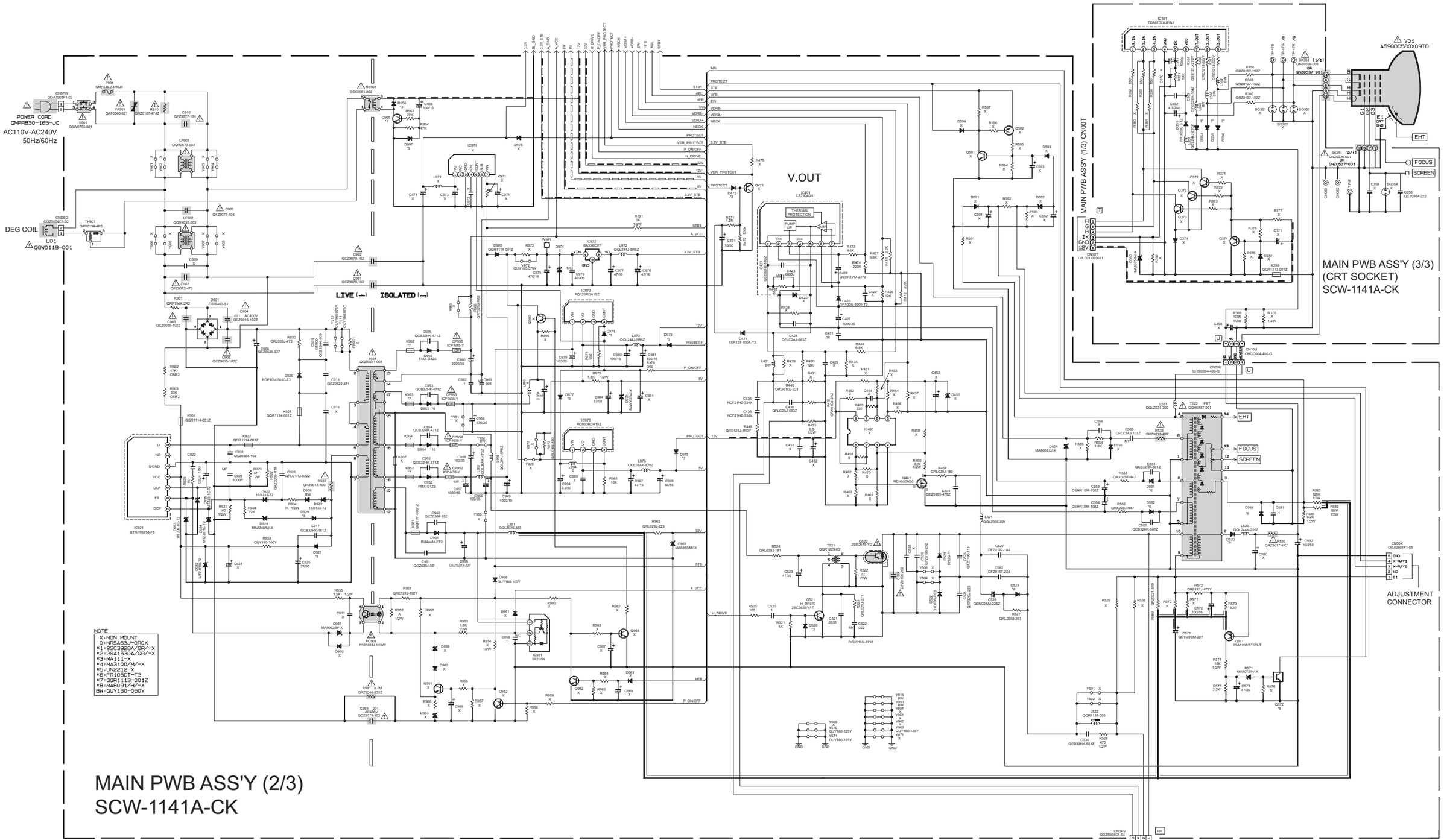
OPEN

OUTPUT

MAIN PWB ASS'Y (1/3)
SCW-1141A-CK

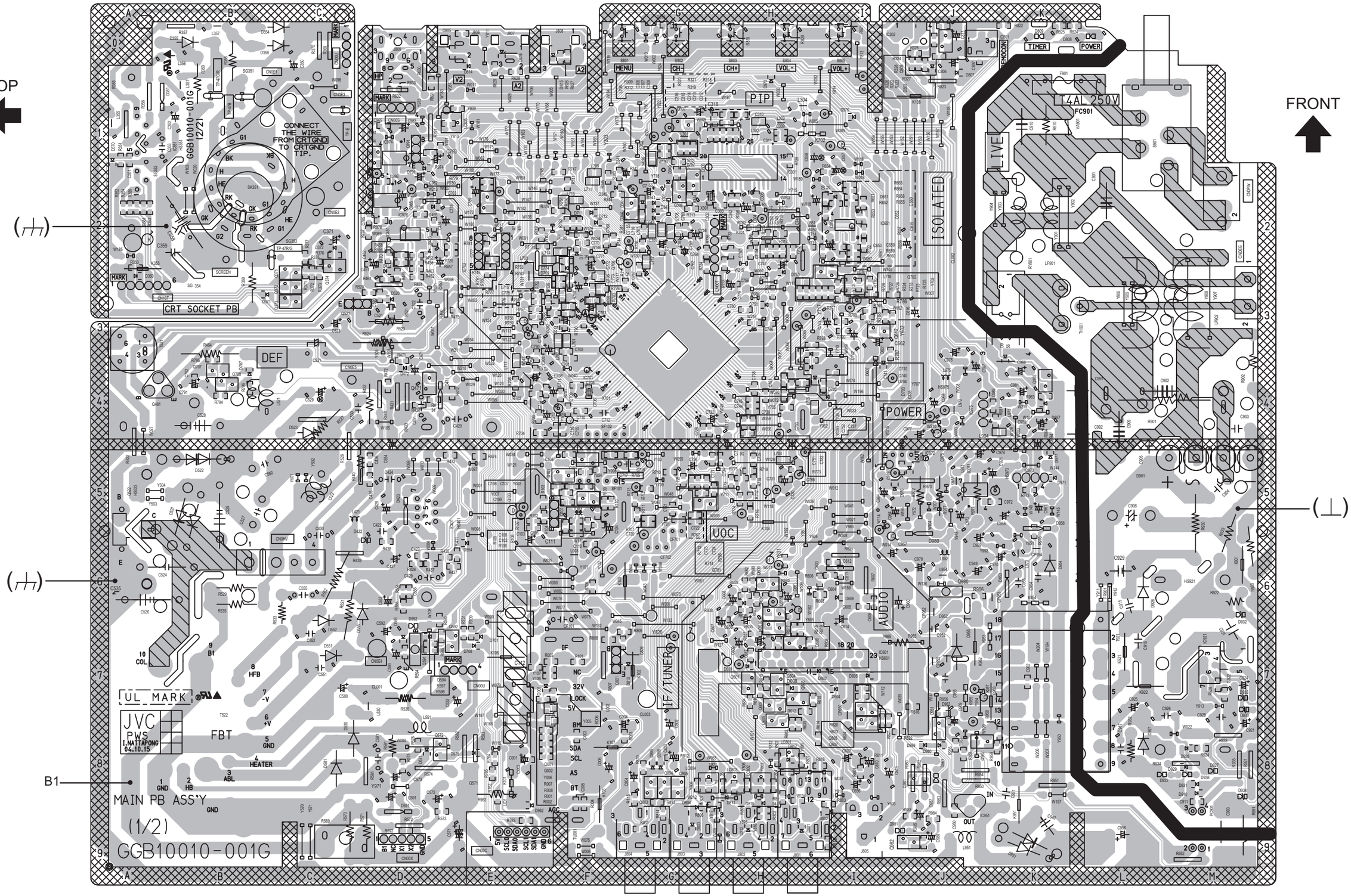
CS21147

MAIN PWB CIRCUIT DIAGRAM (2/3),(3/3)



PATTERN DIAGRAMS

MAIN PWB PATTERN



VOLTAGE CHARTS

<MAIN PWB>

MODE PIN NO.	DC (V)
IC401	
1	0.5
2	13.5
3	-12.3
4	-14.0
5	0
6	13.8
7	0.5
IC451	
1	1.7
2	3.2
3	3.2
4	0
5	2.1
6	2.2
7	3.3
8	11.9
IC601	
1	0
3	0
5	23.8
7	0
9	0
11	0
13	11.8
15	2.2
17	0
19	25.0
21	15.6
23	11.8
IC701	
1	0
2	0
3	1.8
4	3.2
5	3.1
6	0.7
7	3.1
8	0.7
9	3.1
10	1.5
11	1.5
12	0
13	0
14	0.6
15	4.9
16	1.7
17	2.3
18	0
19	2.3
20	2.3
21	2.1
22	0.8
23	0.9
24	1.9
25	1.9
26	2.3
27	1.9
28	0
29	1.9
30	1.9
31	1.6
32	3.3
33	0.5
34	2.2
35	2.2
36	2.7
37	2.7
38	2.2
39	2.4
40	0
41	1.9
42	1.7
43	2.0
44	3.9
45	8.2
46	1.7
47	4.8
48	1.2
49	2.2
50	2.2
51	1.3
52	1.5
53	2.1
54	2.2
55	1.4
56	2.1
57	2.2
58	1.4
59	1.5
60	2.7
61	2.7
62	3.5
63	3.5
64	0
65	2.0
66	0.4

MODE PIN NO.	DC (V)
67	1.5
68	0
69	4.8
70	1.4
71	1.4
72	1.4
73	1.9
74	1.7
75	0.3
76	0
77	3.1
78	1.2
79	1.3
80	1.3
81	0
82	4.8
83	3.5
84	3.6
85	1.8
86	1.9
87	1.9
88	3.1
89	0
90	3.2
91	1.6
92	0
93	0.5
94	3.1
95	0
96	1.7
97	3.1
98	0
99	0
100	1.8
101	0
102	3.1
103	3.2
104	0
105	0
106	0
107	0
108	1.9
109	1.6
110	3.2
111	0
112	3.2
113	2.9
114	3.2
115	0
116	2.6
117	1.7
118	1.8
119	3.1
120	0
121	0
122	3.1
123	0
124	1.8
125	0
126	3.2
127	3.1
128	3.0
IC702	
1	0
2	0
3	0
4	0
5	3.0
6	3.0
7	0
8	3.2
IC921	
1	299.2
3	0
4	20.0
5	0
6	1.2
7	0.8
IC951	
1	135.0
2	0
3	12.1
IC972	
1	7.4
2	0
3	3.2
IC973	
1	16.0
2	11.9
3	0
4	4.8
IC974	
1	1.8
2	0.2
3	0
4	0.5
5	2.8

MODE PIN NO.	DC (V)
6	0
7	3.2
IC975	
1	7.4
2	5.0
3	0
4	4.8
IC976	
1	1.8
2	0.2
3	0
4	0.5
5	2.9
6	0
7	3.2
Q101	
E	2.3
C	11.7
B	3.0
Q461	
E	0
C	12.6
B	0.6
Q521	
E	0
C	17.0
B	17.0
Q522	
E	0
C	130.0
B	-0.1
Q571	
E	134.9
C	0
B	134.6
Q572	
E	0
C	3.1
B	0
Q601	
E	8.1
C	0.3
B	8.2
Q602	
E	0.2
C	-0.2
B	0
Q603	
E	0
C	0
B	-0.2
Q605	
E	0
C	0
B	-0.3
Q607	
E	0
C	0
B	0.6
Q608	
E	0
C	17.3
B	0
Q703	
E	3.2
C	0
B	3.2
Q791	
E	0
C	5.8
B	0
Q801	
E	1.9
C	0
B	1.2
Q803	
E	0
C	0
B	-0.2
Q804	
E	0
C	0
B	-0.2
Q805	
E	0.2
C	-0.2
B	0
Q955	
E	0
C	11.9
B	0
TU001	
1	1.7
2	3.6
3	0
4	1.8
5	1.8

MODE PIN NO.	DC (V)
6	4.9
7	4.9
8	0.5
9	34.8
10	0.5
11	0

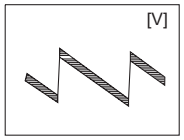
<MAIN PWB (CRT SODKET)>

MODE PIN NO.	DC (V)
IC351	
1	2.0
2	1.9
3	1.9
4	0
5	4.9
6	204.2
7	134.1
8	136.3
9	131.2

WAVEFORMS

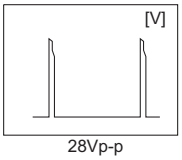
-MAIN PWB-

IC401-1



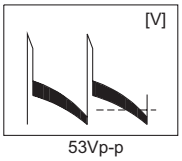
0.7Vp-p

IC401-3



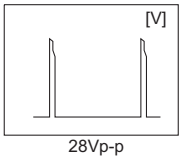
28Vp-p

IC401-5



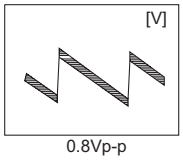
53Vp-p

IC401-6



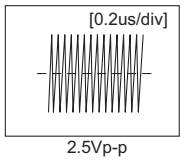
28Vp-p

IC401-7



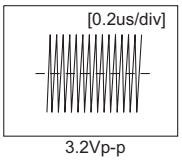
0.8Vp-p

IC701-10



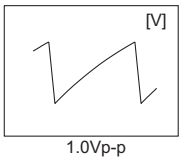
2.5Vp-p

IC701-11



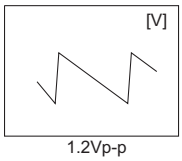
3.2Vp-p

IC701-22



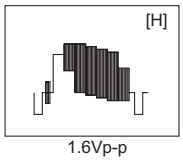
1.0Vp-p

IC701-23



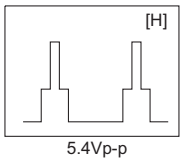
1.2Vp-p

IC701-48



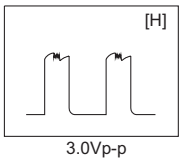
1.6Vp-p

IC701-66



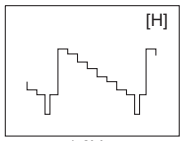
5.4Vp-p

IC701-67



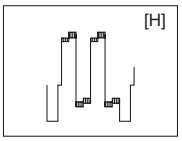
3.0Vp-p

IC701-74



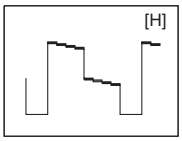
1.0Vp-p

IC701-85



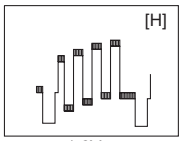
1.7Vp-p

IC701-86



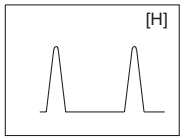
1.4Vp-p

IC701-87



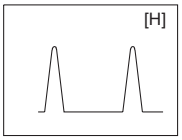
1.8Vp-p

T522-2



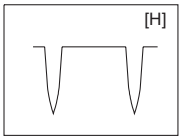
240Vp-p

T522-4



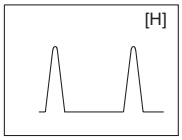
27Vp-p

T522-6



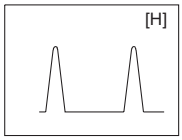
140Vp-p

T522-7



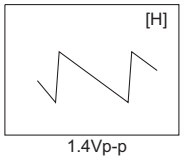
132Vp-p

T522-8



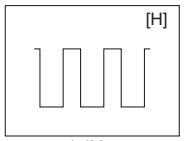
64Vp-p

T522-9



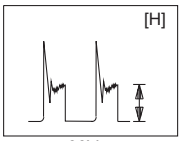
1.4Vp-p

Q521-B



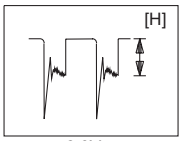
1.4Vp-p

Q521-C



30Vp-p

Q522-B



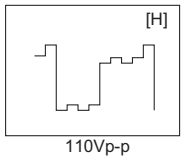
8.0Vp-p

Q522-C

1050Vp-p

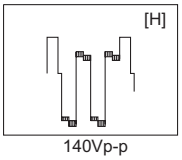
-CRT SOCKET PWB-

IC351-7



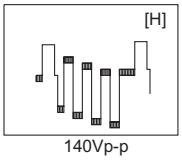
110Vp-p

IC351-8



140Vp-p

IC351-9



140Vp-p

JVC
Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY VIDEO DISPLAY CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YA255)

Printed in Japan
VPT

JVC

COLOR TELEVISION

EQUALIZER • CINEMA SURROUND • COMPONENT INPUT

AV-29VT15 **AV-21VT15**
AV-29VT35

AV-25VT15

Contents

Knowing your TV's features 3
Remote control buttons and basic functions 4
TV buttons and functions 6
Setting up your TV 7
Basic setting for picture 9
Advanced setting for picture 11
Basic setting for sound 12
Advanced setting for sound 13
Favorite channel and video setting 14
Customized setting 15
TV channel presetting 17
Additional preparation 18
Troubleshooting 20
Specifications 21

INSTRUCTIONS

GGT0080-001A-D

Thank you for buying this JVC color television.
To make sure you understand how to use your new TV, please read this manual thoroughly before you begin.

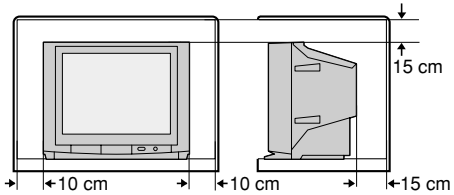
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO ENSURE PERSONAL SAFETY, OBSERVE THE FOLLOWING RULES REGARDING THE USE OF THIS TV.

1 Operate only from the power source indicated on the rear of the TV.

2 Avoid damaging the power cord and mains plug. When unplugging the TV, grasp the mains plug. Do not pull on the power cord.

3 Never block or cover the ventilation openings.
Never install the TV where good ventilation is unattainable.
When installing this TV, leave spaces for ventilation around the TV of more than the minimum distances as shown.



4 Do not allow objects or liquid into the cabinet openings.

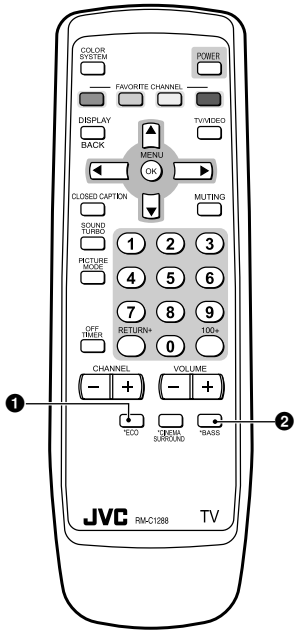
5 In the event of a fault, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover.

6 The surface of the TV screen is easily damaged. Be very careful with it when handling the TV. Should the TV screen become soiled, wipe it with a soft dry cloth. Never rub it forcefully. Never use any cleaner or detergent on it.

7 If you are not going to use this TV for a long period of time, be sure to disconnect the AC plug from the AC socket.

8 The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Knowing your TV's features



Main features

MTS	You can listen to the stereo sound or SAP from TV program broadcasting by MTS system. (SAP: Second audio program.)
CLOSED CAPTION	You can display dialog on the screen from TV broadcasting with Closed Caption system. You may also be able to display some information in text form if available.
FAVORITE CH (Channel)	You can register up to four favorite channels for quick recall with one press.
AI ECO	TV detects the brightness of your room and automatically adjust the picture brightness to a suitable level for a better eye care.
AI VOLUME	TV adjusts the volume automatically to the same level for all TV channels to avoid sudden change of the volume when selecting different TV channel.
VNR	You can reduce the picture noise when viewing noisy TV programs or video sources.

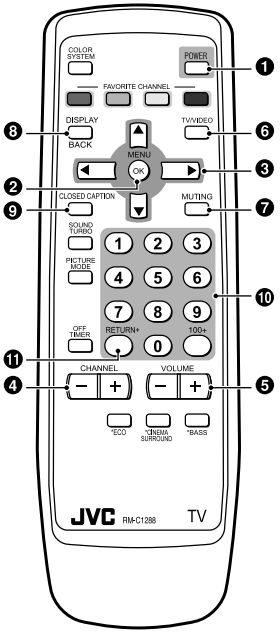
Confirm your TV's functions

Some functions written in this instruction manual may not be available for your TV.
Please see the chart below and check the functions that are equipped for your TV's model number. The model number is indicated at the rear of your TV. When you press a button concerned to a function that is not available for your TV, it does not work and the logo "Ø" appears on the screen. For a function that is not available for your TV, it is not displayed in the menu.

No.	Model No. / Function	AV-29VT35	AV-29VT15	AV-25VT15 AV-21VT15
❶	*ECO	○	○	○
❷	*BASS	○	–	–
–	PICTURE TILT	○	○	–
–	COMPRESS (16:9)	○	○	○

Remote control buttons and basic functions

No.	Press	To
❶	POWER	Turn on or off the TV from standby mode.
❷	MENU/OK	Display menu and confirm selected function.
❸	▲ / ▼ / ◄ / ►	Select and adjust menu function.
❹	CHANNEL -/+	Select the desired channel number.
❺	VOLUME -/+	Adjust the volume level.
❻	TV/VIDEO	Select TV or video terminal input.
❼	MUTING	Turn off the volume. Press this button again to resume the volume.
❽	DISPLAY/BACK	Display the program number or video terminal number on the screen. On the other hand, you can use this button to return to the previous menu.
❾	CLOSED CAPTION	Display information in text which are broadcasted by some TV channels.
❿	0~9, 100+	Select the program number. For three digits program number, press 100+, then press the number button.
⓫	RETURN +	a) Return to the frequently view channel with one touch. **1** Choose the channel you want to register. **2** Press and hold RETURN+ button until “RETURN PLUS PROGRAMMED!” appears. To cancel, press and hold RETURN+ button until “RETURN PLUS CANCELED!” appears. b) Return to the previously viewed channel, if you have not set or have canceled the Return channel as above.



How to operate menus and menus locations

To	Operation	Note
Display the MENU	Press the MENU/OK button ❷.	To exit the MENU, press the DISPLAY/BACK button* ❽ or choose EXIT menu.
Display the top menu	Press ▲/▼ buttons ❸ to choose a menu title. Then press MENU/OK button ❷.	Press ▼ button ❸ to display the next page for more functions.
Display the 2nd menu	Press ▲/▼ buttons ❸ to choose a menu title. Then press MENU/OK button ❷.	
Display the 3rd menu	Press ▲/▼ buttons ❸ to choose a menu title. Then press MENU/OK button ❷.	
Return to the previous menu	Press the DISPLAY/BACK button* ❽.	–
Choose the setting of a function	Press ▲/▼ buttons ❸ to choose a function. Then press the ◄/► buttons ❸ to change the setting.	Press the MENU/OK button ❷ to exit from the menu.
Adjust the effect level of a function	Press ▲/▼ buttons ❸ to choose a function. Then press the ◄/► buttons ❸ to adjust the effect level.	
Display the sub menu of a function.	Press the ▲/▼ buttons ❸ to choose a function. Then press MENU/OK buttons ❷ to display the sub menu.	–

The following chart shows locations of functions in menus. In this manual, location of a function is described as follows:

(MENU) ➡ (Top menu) ➡ (2nd menu)

(MENU) ➡ (Top menu) ➡ (2nd menu) ➡ (3rd menu)

Note: Some functions have the 4th menus as the sub-menus.

* To exit the menu, the on screen display will show BACK indicated in blue. But it doesn't refer to the blue button on the remote control. Instead, it refers to the DISPLAY/BACK button on the remote control.

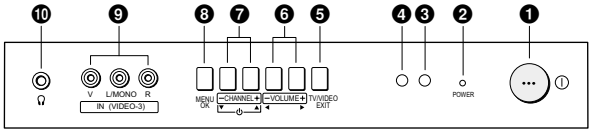
	Top menu	2nd menu	Location	3rd menu	Location
MENU	INPUT	EXT. INPUT	P.16	–	–
		DISPLAY	P.16	–	–
		CLOSED CAPTION	P.15	–	–
	PICTURE * If you want to adjust PICTURE SETTING menu, you must set PICTURE MODE menu to USER.	PICTURE MODE	P.9	–	–
		PICTURE SETTING	P.10	–	–
		WHITE BALANCE	P.10	–	–
		PICTURE FEATURES	–	VNR	P.15
				FAVORITE CH SETTING	P.14
				VIDEO SETTING	P.14
				COLOR SYSTEM	P.9
				COMPRESS (16:9)	P.11
				PICTURE TILT	P.11
	SOUND * If you want to adjust EQUALIZER menu, you must set SOUND MODE menu to USER.	AI VOLUME	P.13	–	–
		MTS	P.13	–	–
		SOUND MODE	P.12	–	–
		EQUALIZER	P.13	–	–
		BALANCE	P.12	–	–
		SOUND TURBO	P.12	–	–
		CINEMA SURROUND	P.13	–	–
		SUPER BASS	P.12	–	–
	FEATURES	OFF TIMER	P.15	–	–
		CHILD LOCK	P.15	–	–
		AI ECO SENSOR	P.11	–	–
	INSTALL	AUTO PROGRAM	P.17	–	–
		CHANNEL SUMMARY	P.17	–	–
		LANGUAGE	P.16	–	–
		BLUE BACK	P.11	–	–
		AUTO SHUTOFF	P.16	–	–
		VIDEO-2 SETTING	P.16	–	–
		AI ECO DISPLAY	P.11	–	–
	EXIT	–	–	–	–

TV buttons and functions

The illustrations shown below is for AV-29VT35 only, which are used for explanation purpose.
Your TV may not look exactly the same as illustrated.

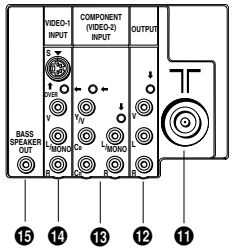
Front of the TV

AV-29VT35



Rear of the TV

AV-29VT35



No.	Button/terminal	Description	Page
❶	⏻ (main power)	Press to turn on or turn off the TV's main power.	–
❷	POWER lamp	Indicate the TV is being turned on or off. No color: TV's main power is being turned off. Red: TV's main power is being turned on. Note: When you turn off the power switch while TV is in standby mode, the light of power lamp will be off in 10 -15 seconds.	–
❸	ECO sensor		–
❹	Remote control sensor		–
❺	TV/ VIDEO	Press to select TV or video mode.	–
❻	VOLUME -/+	Press to adjust the volume level.	–
❼	CHANNEL -/+	Press to select the desired channel.	–
❽	MENU	Press to display the menu.	–
❾	IN (VIDEO-3)	Video and audio input jacks for VIDEO-3 mode.	18
	IN (VIDEO-2)	Video and audio input jacks for VIDEO-2 mode.	18
❿	🎧	Headphone jack.	18
⓫	⊤	Aerial socket.	7
⓬	OUTPUT	Video and audio output jacks. (The component video signal cannot be output.)	18
⓭	COMPONENT (VIDEO-2) INPUT	Video or component video, and audio input jacks for VIDEO-2 mode. You can select the input signal by setting the "VIDEO-2 SETTING" function (see page 16).	18
⓮	VIDEO-1 INPUT	Video or S-VIDEO, and audio input jacks for VIDEO-1 mode	7
⓯	BASS SPEAKER OUT	Twin Port Bass Blaster Unit output terminal.	19

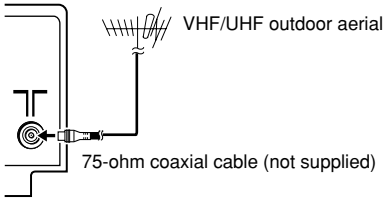
How to operate the menus with the TV button

TV button	Work as same as the button on the remote control unit	Note
MENU	MENU/OK button	To display main menu and exit menu after finish setting.
CHANNEL -/+	▼/▲ button	To select menu function.
VOLUME -/+	◄/► button	To adjust the desired function.

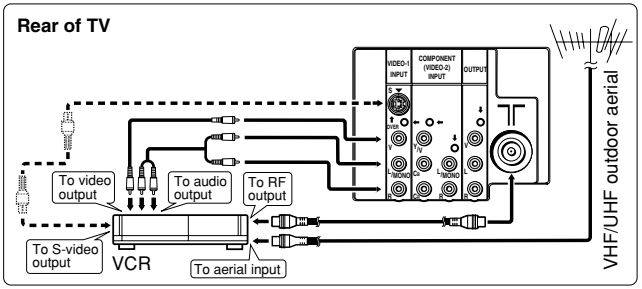
Setting up your TV

CAUTION
- Turn off the equipment including the TV before connecting.

1 Connecting the aerial cable.

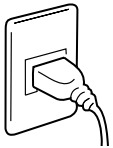


If you connect a VCR, connect the aerial output jack of your VCR and the aerial jack on the TV with the aerial cable. Then connect the output jacks of your VCR and the VIDEO-1 input jacks of the TV with the video cable (or S-VIDEO cable if available) and audio cables. For details, see the manual of your VCR.



The illustration shown is just a sample. It may not be same as your TV.

2 Connecting the compatible main plug to the AC outlet.



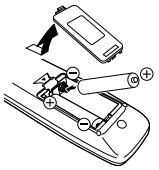
3 Inserting batteries into the remote control.

Insert two batteries by following the ⊕ and ⊖ polarities and inserting the ⊖ end first.

CAUTION:

Follow the cautions printed on the batteries.

Notes:
- Use AA/R6/UM-3 dry cell batteries.
- It the remote control does not work properly, fit new batteries. The supplied batteries are for testing, not regular use.

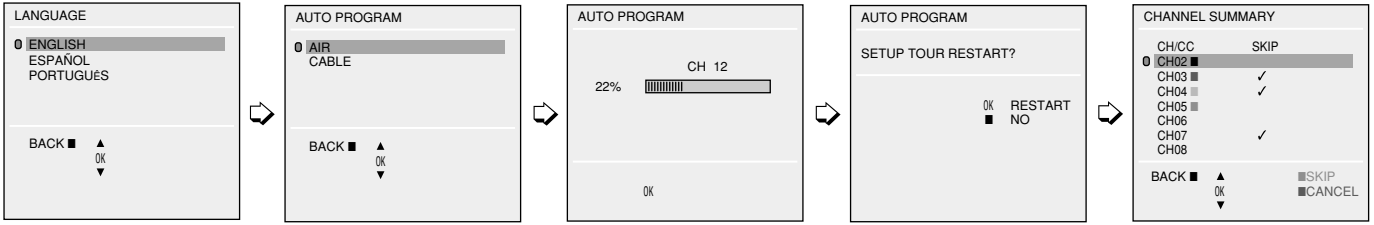


4 Turn on the TV by pressing the main power button.

JVC logo appears on the screen.

5 Making the initial settings

Set up your TV by pressing MENU/OK button or waiting for 15 seconds, then the TV will operate by following steps as below:



- Press ▲/▼ button to select your desired language.
- Press ▲/▼ button to select AIR or CABLE, press the MENU/OK button.TV will start searching for the channels.
- To stop AUTO PROGRAM, press MENU/OK button.
- Press the red button to cancel the SETUP TOUR RESTART function. If you want to make initial settings again when the next time you turn on the TV, press the MENU/OK button to activate the SETUP TOUR RESTART function.
- To complete the initial setting, press the MENU/OK button. To set undesired channels to be skipped, see page 17.

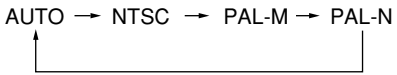
If the JVC logo does not appear, use AUTO PROGRAM function to make the initial settings. This function is located in the INSTALL menu.

If the JVC logo appears, although you had made the initial settings, press the TV/VIDEO button to exit from initial settings.

Basic setting for picture

COLOR SYSTEM

You can select the appropriate color system when the picture is not clear or no color appears.
Press the COLOR SYSTEM button to select a setting.



To operate this function with a menu:

✳ (MENU) ➡ (PICTURE menu) ➡ (PICTURE FEATURES menu) ➡ (COLOR SYSTEM)

For the color system in each country or region, see the table below:

Area	Country or Region	System
South America	Argentina, Paraguay, Uruguay	PAL-N
	Brazil	PAL-M
	Chile, Peru, Bolivia, Colombia, Venezuela, Ecuador, etc.	NTSC

PICTURE MODE

You can choose the desired picture setting with one-touch.
Press the PICTURE MODE button to select a setting.

SOFT	Softens contrast and sharpness.
BRIGHT	Heightens contrast and sharpness.
STANDARD	Standard picture setting.
USER	You can change this picture setting as you like. Select USER and adjust following items in the PICTURE SETTING menu. (PICTURE, BRIGHT, DETAIL, COLOR, TINT*)

*TINT can only be adjusted in NTSC signal and 525i component video signal.

To operate this function with a menu:

(MENU) ➡ (PICTURE menu) ➡ (PICTURE MODE)

To return the USER setting to the default, press the blue button when the PICTURE SETTING menu appears.

✳ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Adjusting the picture – USER

You can adjust the desired picture setting when selecting USER in PICTURE MODE.

1 Select the USER in PICTURE MODE under PICTURE menu.
✳ (MENU) ➔ (PICTURE menu) ➔ (PICTURE MODE) ➔ (USER)

2 Select the PICTURE SETTING in PICTURE menu, then adjust the setting.
✳ (MENU) ➔ (PICTURE menu) ➔ (PICTURE SETTING)

PICTURE	◄ : Lower	► : Higher
BRIGHT	◄ : Darker	► : Brighter
DETAIL	◄ : Softer	► : Higher
COLOR	◄ : Lighter	► : Deeper
TINT*	◄ : Reddish	► : Greenish

*TINT can only be adjusted in NTSC signal and 525i component video signal.

WHITE BALANCE

You can change the white balance of the picture to better match the type of video being viewed.
Select the WHITE BALANCE in the PICTURE menu, then choose the desired setting.

✳ (MENU) ➔ (PICTURE menu) ➔ (WHITE BALANCE)

NORMAL	Normal white balance.
COOL	Bluish white.
WARM	Reddish white.

✳ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Advanced setting for picture

AI ECO SENSOR (ECO)

You can adjust TV screen contrast according to the brightness of your room.
Press the ECO button to select the desired mode.

1	Mild contrast (recommended).
2	Even contrast.
OFF	Cancel the function.

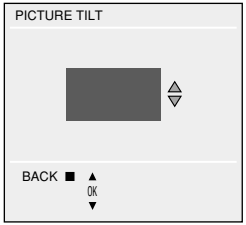
To operate this function with a menu:
✳ (MENU) ➔ (FEATURES menu) ➔ (AI ECO SENSOR)

You can display the graphic of AI ECO SENSOR on the screen. Select the AI ECO DISPLAY in the INSTALL menu, then choose ON or OFF.
✳ (MENU) ➔ (INSTALL menu) ➔ (AI ECO DISPLAY)

Correcting the Slanting Picture (PICTURE TILT)

You can correct the picture tilt caused by the earth's magnetic force.

1 Select the PICTURE TILT in the PICTURE FEATURES menu under PICTURE menu, then press MENU/OK button.
✳ (MENU) ➔ (PICTURE menu) ➔ (PICTURE FEATURES menu) ➔ (PICTURE TILT)
The following display appears.



2 Press the ▲/▼ buttons until the picture become level. Then press the MENU/OK button.

COMPRESS (16:9)

You can convert a normal picture (4:3 aspect ratio) into a wide picture (16:9 aspect ratio).
Select the COMPRESS (16:9) in the PICTURE FEATURES menu under PICTURE menu, then choose ON or OFF.
✳ (MENU) ➔ (PICTURE menu) ➔ (PICTURE FEATURES menu) ➔ (COMPRESS (16:9))

BLUE BACK

You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent, or when there is no input from an antenna.

Select the BLUE BACK in the INSTALL menu, then choose ON or OFF.
✳ (MENU) ➔ (INSTALL menu) ➔ (BLUE BACK)

If you wish to continue viewing the poor picture, cancel the BLUE BACK function.

✳ About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

Basic setting for sound

SUPER BASS (BASS)

You can enjoy powerful bass sound with the Twin Port Bass Blaster unit.

Press the BASS button to select ON or OFF.
To operate this function with a menu:

✳ (MENU) ➔ (SOUND menu) ➔ (SUPER BASS)

For attaching the Twin Port Bass Blaster unit, please see in page 19.

SOUND MODE

You can choose the desired sound setting.
Select the SOUND MODE in SOUND menu, then choose the setting.

✳ (MENU) ➔ (SOUND menu) ➔ (SOUND MODE)

USER	You can change this sound setting as you like. Select USER and adjust the frequencies in EQUALIZER (100, 300, 1K, 3K, 8K Hz). For details, see “EQUALIZER” on page 13.
DYNAMIC	Emphasize on both vocal sound and music.
MUSIC	Emphasize on music effect.
NEWS	Emphasize on vocal sound.

BALANCE

You can adjust the volume balance between the left and right speakers.
Select the BALANCE in SOUND menu, then adjust the setting.

✳ (MENU) ➔ (SOUND menu) ➔ (BALANCE)

SOUND TURBO

You can enjoy the emphatic low and high frequency levels.

Press the SOUND TURBO to select ON or OFF.
To operate this function with a menu:

✳ (MENU) ➔ (SOUND menu) ➔ (SOUND TURBO)

✳ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Advanced setting for sound

CINEMA SURROUND

You can enjoy an enhanced sound for wider audience.
Press the CINEMA SURROUND button to select a setting.

OFF	Cancel the function.
HIGH	Listen to sound with more wider audience effect.
LOW	Listen to sound with less wider audience effect.
MONO	Listen to mono sound with stereo effect.

To operate this function with a menu:

✳ (MENU) ➔ (SOUND menu) ➔ (CINEMA SURROUND)

If slight volume distortion occurs when you select HIGH mode, change the setting to LOW mode. The CINEMA SURROUND effect will be less noticeable.

If you use CINEMA SURROUND and SOUND TURBO together, volume distortion might occurs.

MTS

You can enjoy the stereo and SAP broadcasted programs.
Select the MTS in SOUND menu, then choose the desired mode.

✳ (MENU) ➔ (SOUND menu) ➔ (MTS)

STEREO	Select stereo sound.
SAP	Select second audio programs.
MONO	Select monaural sound.

This function is not available in video mode.

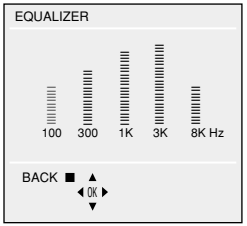
EQUALIZER

You can adjust the sound level of each frequencies when selecting USER mode in SOUND MODE.

1 Select the USER in SOUND MODE under SOUND menu.
✳ (MENU) ➔ (SOUND menu) ➔ (SOUND MODE) ➔ (USER)

2 Select the EQUALIZER in SOUND menu.
✳ (MENU) ➔ (SOUND menu) ➔ (EQUALIZER)

The following display appears.



3 Select and adjust the desired frequencies.

4 Press the MENU/OK button to exit the menu.

Adjust high frequency will affect higher pitch sound and vice versa.

AI VOLUME

You can adjust the volume of all the channels and video inputs to the same level automatically.
Select the AI VOLUME in SOUND menu, then choose ON or OFF.

✳ (MENU) ➔ (SOUND menu) ➔ (AI VOLUME)

✳ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Favorite channel and video setting

To register the favorite channel

You can register and recall 4 favorite channels by using the color buttons (red, green, yellow, blue).

1 In TV mode, select a TV channel (CH02-CH69, CC01-CC125) you desired to register.

2 Press and hold a color button for 3 seconds or more. "FAVORITE CHANNEL ■ PROGRAMMED!" appears on the screen and current channel is registered.

3 To register other favorite channels, repeat Step 1 to 2.

To recall the favorite channel, press the color button.

When the TV is in menu mode, favorite channel function is not available.

To adjust favorite channel setting (FAVORITE CH SETTING)

You can adjust the picture and sound settings for the favorite channels.

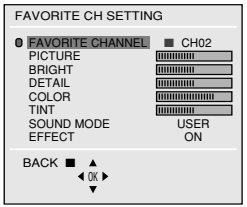
1 Display the PICTURE menu and select FAVORITE CH SETTING in PICTURE FEATURES menu.

✳(MENU) ➡ (PICTURE menu) ➡ (PICTURE FEATURES menu) ➡ (FAVORITE CH SETTING)

2 Select FAVORITE CHANNEL in FAVORITE CH SETTING menu, then choose the desired favorite channel.

✳(FAVORITE CH SETTING) ➡ (FAVORITE CHANNEL)

3 Select EFFECT, then press ◄/► button to choose ON.
To cancel the settings, choose OFF.



4 Select the desired item that you wish to adjust.

PICTURE ↔ BRIGHT ↔ DETAIL ↔ COLOR ↔ SOUND MODE (USER, DYNAMIC, MUSIC, NEWS) ↔ TINT*

*TINT can only be adjusted in NTSC signal.

5 Press the MENU/OK button to exit the menu.

To adjust the video setting (VIDEO SETTING)

You can adjust the picture and sound settings for video inputs.

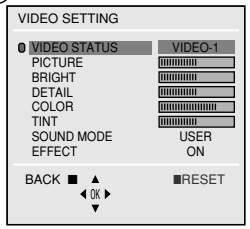
1 Display the PICTURE menu and select VIDEO SETTING in PICTURE FEATURES menu.

✳(MENU) ➡ (PICTURE menu) ➡ (PICTURE FEATURES menu) ➡ (VIDEO SETTING)

2 Select VIDEO STATUS in VIDEO SETTING menu, then choose the desired video input.

✳(VIDEO SETTING) ➡ (VIDEO STATUS)

3 Select EFFECT, then press ◄/► button to choose ON.
To cancel the settings, choose OFF.



4 Select the desired item that you wish to adjust.

PICTURE ↔ BRIGHT ↔ DETAIL ↔ COLOR ↔ SOUND MODE (USER, DYNAMIC, MUSIC, NEWS) ↔ TINT*

*TINT can only be adjusted in NTSC signal and 525i component video signal.

5 Press the MENU/OK button to exit the menu.

✳ About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

Customized setting

VNR

You can reduce the picture noise.
Select the VNR in the PICTURE FEATURES menu under PICTURE menu, then choose a setting of VNR function.

✳ (MENU) ➔ (PICTURE menu) ➔ (PICTURE FEATURES menu) ➔ (VNR)

OFF	VNR is turned off.
AUTO	Effect of VNR is automatically controlled.
MIN	Effect of VNR becomes minimum level.
MAX	Effect of VNR becomes maximum level.

If you select MAX, the picture becomes softer even if the original picture is sharp.

CLOSED CAPTION

If they are included in a program, you can view closed captions or text information.
Press the CLOSED CAPTION button to select a setting.

OFF → CLOSED CAPTION → TEXT

1 Select the CLOSED CAPTION in INPUT menu, then choose CAPTION or TEXT.

✳ (MENU) ➔ (INPUT menu) ➔ (CLOSED CAPTION)

2 Press the ◄/► button to select the desired caption or text channel.

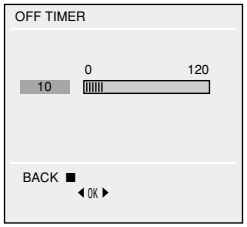
CHILD LOCK

You can disable the front control buttons of the TV.
Select the CHILD LOCK in the FEATURES menu, then choose ON or OFF.

✳ (MENU) ➔ (FEATURES menu) ➔ (CHILD LOCK)

OFF TIMER

You can set the TV to turn off automatically to standby mode after a set time.
Press the OFF TIMER button to select a desired period of time.



You can set the period of time to a maximum of 120 minutes in 10 minutes step.

To operate this function with a menu:

✳ (MENU) ➔ (FEATURES menu) ➔ (OFF TIMER)

When the elapsed of time left one minute, “GOOD NIGHT!” appears on the screen.
You can display the OFF TIMER menu again to confirm or change the remaining time.

✳ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

AUTO SHUTOFF

You can set the TV to turn off automatically when no signal is received for about 15 minutes or longer after the end of a broadcast.
Select AUTO SHUTOFF in INSTALL menu, then choose ON or OFF.

✳ (MENU) ➡ (INSTALL menu) ➡ (AUTO SHUTOFF)

The AUTO SHUTOFF function does not turn off the TV's main power.
The AUTO SHUTOFF function is not available in video mode.

VIDEO-2 SETTING

You can set the VIDEO-2 SETTING according to the video signal output from the external devices connected to the VIDEO-2 terminal.
Select the VIDEO-2 SETTING in INSTALL menu, then choose a setting.

✳ (MENU) ➡ (INSTALL menu) ➡ (VIDEO-2 SETTING)

VIDEO	If a normal video signal (composite video signal) is input.
COMPONENT	If a component video signal ($Y/C_B/C_R$) is input.

For connecting methods, see "Additional Preparation" on page 18.

EXT. INPUT (TV/VIDEO)

You can select TV or video terminal input with one touch.
Press the TV/VIDEO button to select an input.
To operate this function with a menu:

✳ (MENU) ➡ (INPUT menu) ➡ (EXT. INPUT)

DISPLAY

You can display the program number and video terminal number on the screen.
Press the DISPLAY button to display the indication on the screen.
To operate this function with a menu:

✳ (MENU) ➡ (INPUT menu) ➡ (DISPLAY)

LANGUAGE

You can choose your desired on screen display language.

Select the LANGUAGE in the INSTALL menu, then choose a language.

✳ (MENU) ➡ (INSTALL menu) ➡ (LANGUAGE)

✳ About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

TV channel presetting

To register the TV channels automatically

You can register the TV channels into the TV's channel list automatically.

1 Display the INSTALL menu.

✳ (MENU) ➔ (INSTALL menu)

2 Choose AUTO PROGRAM, then press the MENU/OK button.

3 Press the ▲/▼ button to select AIR or CABLE, then press the MENU/OK button.
AUTO PROGRAM function starts, and the channels received are registered automatically.

4 "SETUP TOUR RESTART?" appears.

To start the SETUP TOUR	Press the MENU/OK button. Then proceed to step 5 of "Setting up your TV" on page 8.
To skip the SETUP TOUR	Press the Red button.

5 The CHANNEL SUMMARY menu appears.

For details of "SETUP TOUR", see page 8.

CHANNEL SUMMARY

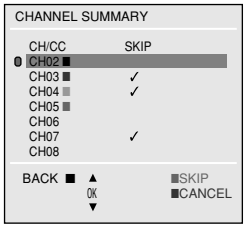
You can set undesired channels to be skipped.

Channels are to be skipped cannot be selected by the CHANNEL -/+ button.

1 Display the INSTALL menu.

✳ (MENU) ➔ (INSTALL menu)

2 Choose CHANNEL SUMMARY, then press the MENU/OK button.
CHANNEL SUMMARY menu appears.



3 Choose the channel which you want to skip.
The skip can be set to all channels of AIR (CH02-CH69) and CABLE (CC01-CC125).

4 Press the yellow button to skip the channel.
To cancel the skip, press the blue button.

5 Press the MENU/OK button to exit the menu.

✳ About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

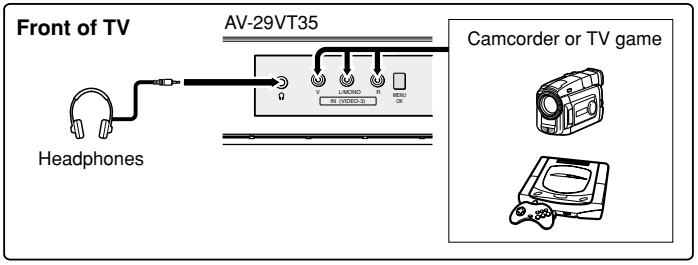
Additional preparation

The illustrations shown in this section are for AV-29VT35 and AV-21YT15 only, which are used for explanation purpose. Your TV may not look exactly the same as illustrated.

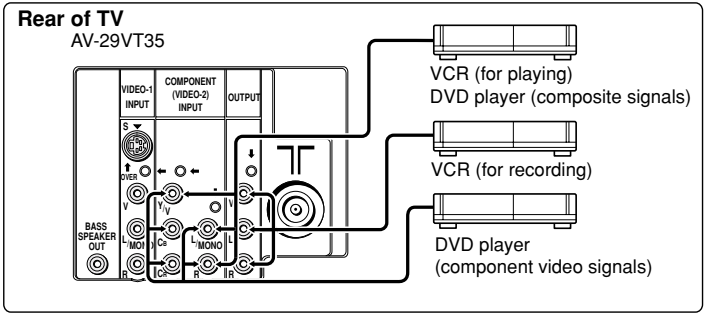
Before connecting

- Read the manuals provided with the devices for the proper connection.
- Turn off all the devices including the TV.
- Note that connecting cables are not supplied.

Connecting to front video input terminal



Connecting to rear component/video input terminal and output terminal



When you use VIDEO-1 INPUT, you should choose to connect S-VIDEO or video input. If S-VIDEO connector and video input are connected at the same time, no picture displays on the screen and the message “PLEASE DISCONNECT VIDEO-1 CABLE!” appears. In this case, you should disconnect either S-VIDEO or video input.

When connecting to COMPONENT (VIDEO-2) input, depending on the connection, choose the appropriate video input using the menu (see page 16).

Attaching the Twin Port Bass Blaster Unit

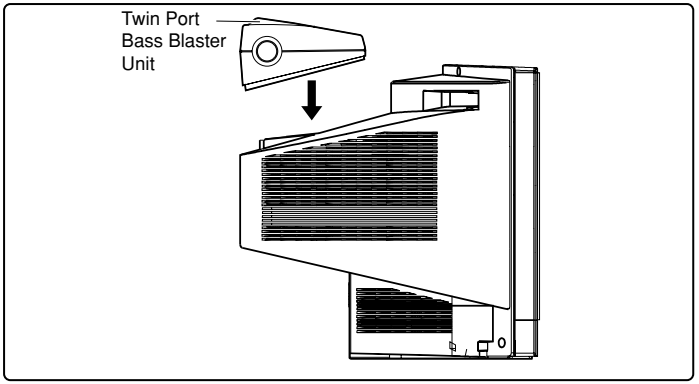
<AV-29VT35 only>

The Twin Port Bass Blaster Unit is packaged together with the TV. Before you use the TV, mount the Twin Port Bass Blaster unit correctly on the TV.

- The SUPER BASS (BASS) function do not work unless the Twin Port Bass Blaster Unit is connected correctly to the TV. For details on the SUPER BASS (BASS) function, see page 12.

1 Place the unit on top of the TV making sure that the mounting pin on the bottom of the unit fits into the mounting hole on the top of the TV.

- When you mount the unit, make sure that the mounting pin fits properly into the mounting hole. Otherwise, it may slide off the top of the TV. This may cause damage or cause unexpected injury.

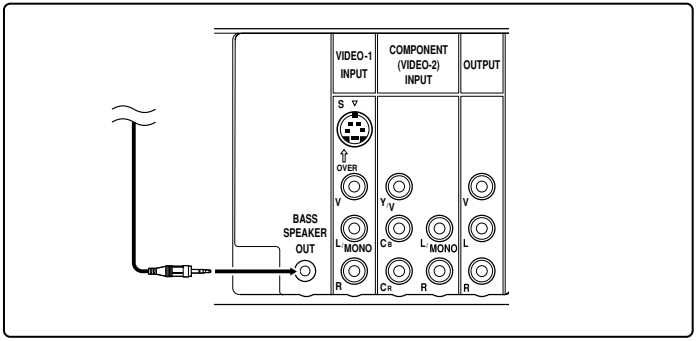


CAUTION:

The Twin Port Bass Blaster Unit is just placed on top of the TV and is not held in place by a screw. When using the unit, pay attention to the following cautions. Otherwise, the unit or TV may fall over and be damaged, or cause unexpected injury.

- Do not rest your hands or elbows on the Twin Port Bass Blaster Unit.
- Do not move the TV with the Twin Port Blaster Unit mounted on top of the TV. Before you move the TV, be sure to remove the unit.
- Do not move the TV by holding the Twin Port Bass Blaster Unit.

2 Firmly insert the Twin Port Bass Blaster Unit connector into the BASS SPEAKER OUT terminal.



Troubleshooting

If a problem occurs when you are using the TV, check the below troubleshooting guide before calling for repair.

• No picture, no sound	• Deactivate the BLUE BACK function if it is turned on.
• Snowy picture	• Check the aerial cable and its connection with the TV.
• Stripes appear on the picture	• Interference occurs caused by other devices such as an amplifier, personal computer, or a hair drier. Move such devices away from your TV.
• Double-pictures (ghosting) occur	• Interference occurs caused by signal reflecting from mountains or building. Try to adjust the aerial's direction or use a better directionality antenna.
• Poor picture	• Choose the appropriate color system. Refer to "COLOR SYSTEM" on page 9. • Adjust the COLOR or BRIGHT setting. Refer to "Adjusting the picture - USER" on page 10.
• White and bright still image look as if it were colored	• Inevitable phenomenon due to the nature of the picture tube. This is not a malfunction.
• Top of the image from software products or video tape is distorted	• This is due to the condition of the video signal whereby the image was not recorded properly. This is not a malfunction.
• Poor sound	• Adjust the sound frequency properly. Refer to "EQUALIZER" on page 13.
• Stereo or bilingual sound is unclear	• TV channel reception is poor. Change the stereo/ bilingual mode to mono sound (see page 13).
• Cannot operate the remote control	• The batteries may be exhausted. Replace with new batteries (see page 7). • Ensure that you are operating the remote less than seven meters from the front of your TV.
• Cannot operate the menus	• Press TV/VIDEO button to return to TV mode and try operating the menus.
• Cannot operate the front control buttons	• Deactivate the CHILD LOCK function if it is turned on (see page 15).
• TV is turned off suddenly	• This may due to the AUTO SHUTOFF function is activated. Press the POWER button to turn on the TV.
• Color patches appear at the corner of the screen	• This may due to the magnetized device such as a speaker near to your TV. Keep the device apart from your TV. Alternately, you can also use the magnetic-shielded speaker.
• Picture is tilted	• This may due to the earth magnetism. Refer to "PICTURE TILT" on page 11 to correct the tilt.
• Image takes a short period to be displayed	• Image required time to stabilize before display. This is not a malfunction.
• TV may emitted crackling sound	• This is due to a sudden change in temperature and it is not a malfunction. If the crackling sound is too frequent, request your service technician for inspection.
• Feel a slight electric shock when touching the TV screen	• This is due to the static electricity of the picture tube and it will not harm the human body. This is not a malfunction.

Specifications

TV RF systems

M, N

Color systems

NTSC, PAL-M, PAL-N

Receiving channels

VHF low channel (VL), VHF high channel (VH), UHF channel (U)
Receives cable channels in mid band, super band and hyper band.

External input / output

VIDEO-1:	S-video input, VIDEO input, AUDIO L/R input
VIDEO-2/COMPONENT:	VIDEO input, AUDIO L/R input, COMPONENT VIDEO ($Y/C_B/C_R$) input
VIDEO-3:	VIDEO input, AUDIO L/R input
OUTPUT:	VIDEO output, AUDIO L/R output
Headphone jack:	Stereo mini jack (3.5 mm diameter)

Sound-multiplex systems

MTS (Multi-Channel Television Sound)

Design and specifications subject to change without notice.

MEMO

MEMO

© 2004 Victor Company of Japan, Limited

JVC

1204-FLE-JMT

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
CR	Carbon Resistor	C CAP.	Ceramic Capacitor
FR	Fusible Resistor	E CAP.	Electrolytic Capacitor
PR	Plate Resistor	M CAP.	Mylar Capacitor
VR	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MF R	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MG R	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MP R	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OM R	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMF R	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNF R	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

CONTENTS

USING P.W. BOARD & REMOTE CONTROL UNIT 3-3
EXPLODED VIEW PARTS LIST -1 3-3
EXPLODED VIEW -1 3-3
EXPLODED VIEW PARTS LIST -2 3-4
EXPLODED VIEW -2 3-5

PRINTED WIRING BOARD PARTS LIST 3-6
MAIN P.W. BOARD ASS'Y (SCW-1141A-CK) 3-6

REMOTE CONTROL UNIT PARTS LIST (RM-C1288-1H) 3-10
PACKING 3-10
PACKING PARTS LIST 3-10

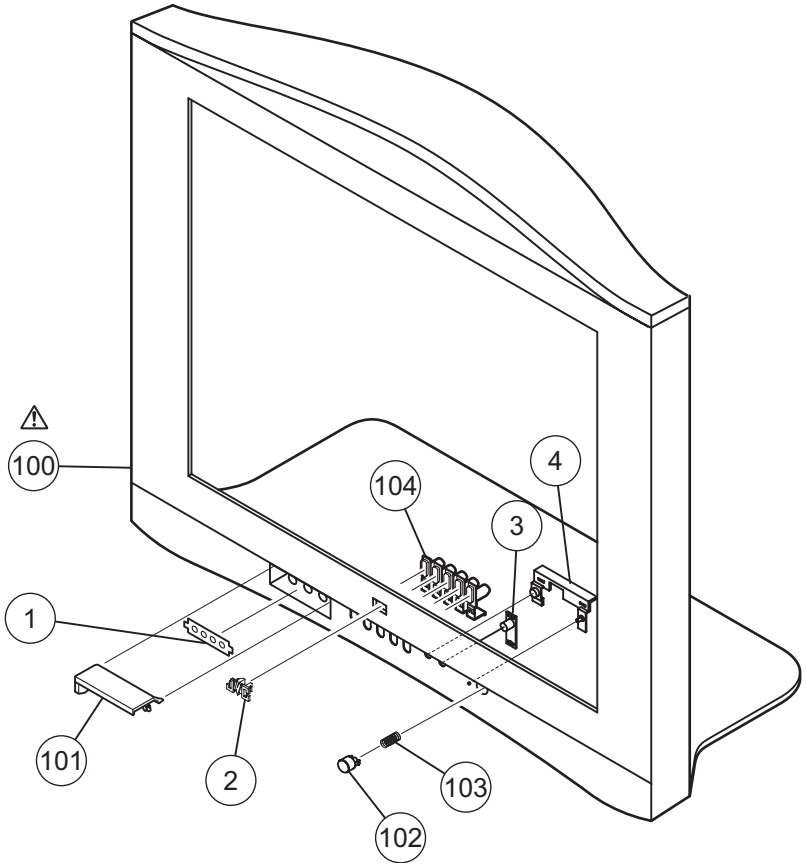
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y	AV-25VT15/R
MAIN P.W.B	SCW-1141A-CK
REMOTE CONTROL UNIT	RM-C1288-1H

EXPLODED VIEW PARTS LIST -1

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	GG30068-001A-H	AV SHEET		
	2	GG40023-003A-H	JVC MARK		
	3	GG30044-001B-H	REMOCON LENS		
	4	GG30042-001B-H	LED LENS		
⚠	100	GG10253-008A-HK	FRONT CABINET ASS'Y	Inc.101,102,103,104	
	101	GG20044-001C-H	DOOR		
	102	GG30043-002A-H	POWER KNOB		
	103	CM35235-003-H	SPRING		
	104	GG20022-002B-H	CONTROL KNOB		

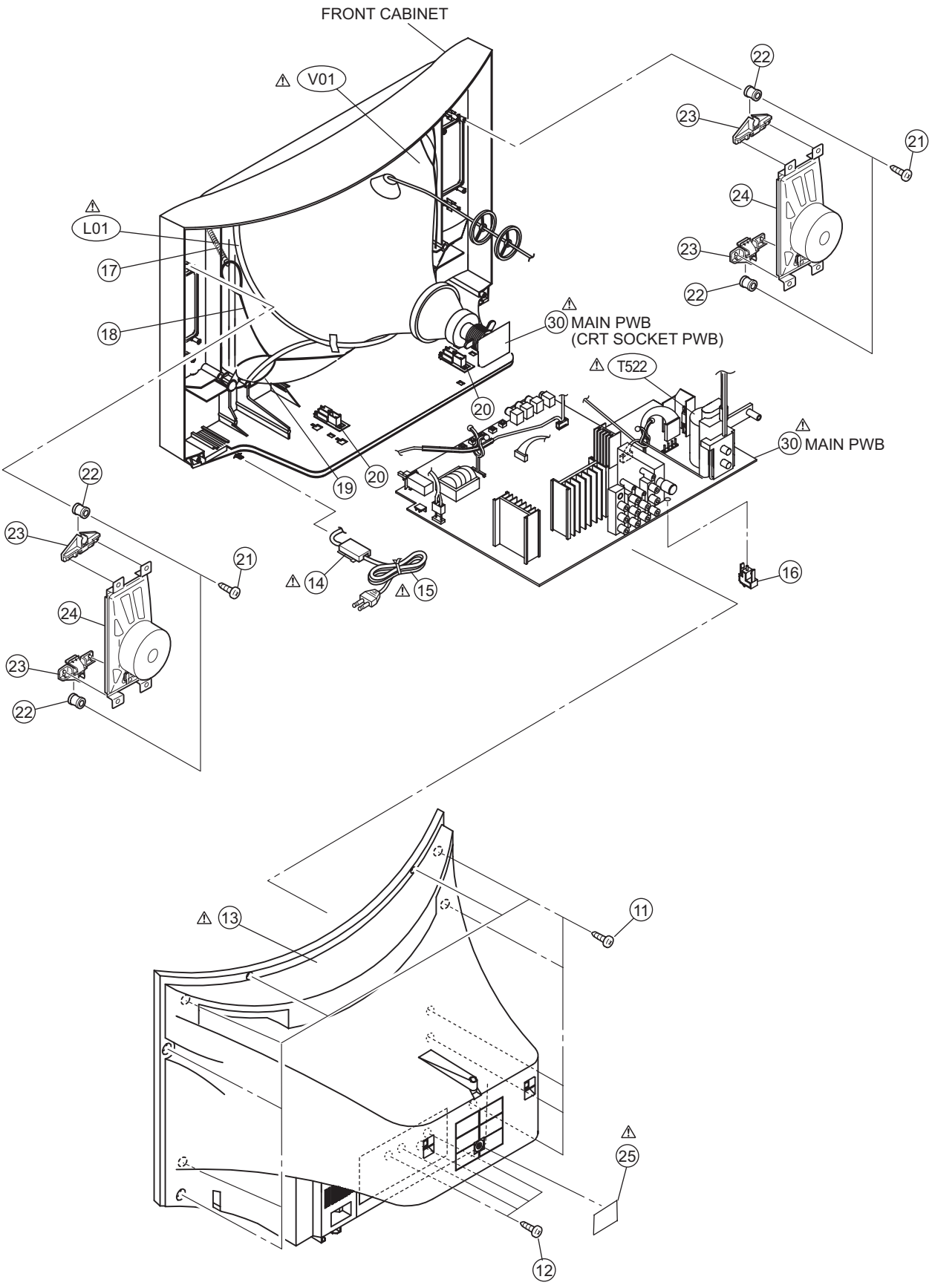
EXPLODED VIEW -1



EXPLODED VIEW PARTS LIST -2

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A59QDC580X09TD	PICTURE TUBE	Inc.DEF YOKE,PC MAGNET	
⚠	L01	QQW0119-001	DEG COIL		
⚠	T522	QQH0187-001	FB TRANSF		
	11	QYSBSFG4016ZA	TAP SCREW	M4 x 16mm(x11)	
	12	QYSBSF3010ZA	TAP SCREW	M3 x 10mm(x4)	
⚠	13	GG10249-007A-HK	REAR COVER		
⚠	14	CM47005-A01-H	POWER CORD CLAMP		
⚠	15	QMPR830-165-JC	POWER CORD	1.65m BLACK	
	16	CM48144-004-H	PB STOPPER		
	17	A48457-3-H	SPRING		
	18	CHGB0028-0A	BRAIDED ASS'Y		
	19	CHGB0017-0C	BRAIDED SUB ASS'Y	(x2)	
	20	CM36623-B01-H	CHASSIS RAIL	(x2)	
	21	GG40046-001A-H	TAP SCREW	(x4)	
	22	LC40226-004A-H	SPACER	(x4)	
	23	GG20057-001A-H	SP HOLDER	(x4)	
	24	QAS0139-001	SPEAKER	(x2) SP01,SP02	
	25	GG20084-003A-D	RATING LABEL		
⚠	30	SCW-1141A-CK	MAIN PWB		

EXPLODED VIEW -2



PRINTED WIRING BOARD PARTS LIST

MAIN P.W. BOARD ASS'Y (SCW-1141A-CK)

⚠Ref No.	Part No.	Part Name	Description Local
IC302	S9066-11	PHOTO CONDUCTOR	
IC351	TDA6107AJF/N1	IC	
IC401	LA78040N	IC	
IC451	UPC358G2-XE	IC	
IC601	AN5277	IC	
IC701	TDA12027-NTSC	IC(MCU)	(SERVICE)
IC702	AT24C16-25VT15R	IC	(SERVICE)
IC801	RPM7238-H5	IR DETECT UNIT	
IC921	STR-W6756-F5	SW IC	
IC951	SE135N	IC	
IC972	BA33BC0T	REGULATOR IC	
IC973	PQ120RDA1SZ	IC	
IC974	MM1561JF-X	IC	
IC975	PQ050RDA1SZ	IC	
IC976	MM1561JF-X	IC	
Q001	2SK1830-X	MOS FET	
Q002	2SK1830-X	MOS FET	
Q101	2SC5397/CD/-T	TRANSISTOR	
Q341	2SA1530A/QR/-X	TRANSISTOR	
Q461	2SD1267A/QP/	POW TRANSISTOR	
Q521	2SC2655/Y/-T	TRANSISTOR	
⚠Q522	2SD2645-YD	POW TRANSISTOR	
Q571	2SA1208/ST/Z1-T	TRANSISTOR	
Q572	UN2212-X	DIGI TRANSISTOR	
Q601	2SA1530A/QR/-X	TRANSISTOR	
Q602	2SA1530A/QR/-X	TRANSISTOR	
Q603	UN2226-X	DIGI TRANSISTOR	
Q605	UN2226-X	DIGI TRANSISTOR	
Q607	2SC3928A/QR/-X	TRANSISTOR	
Q608	2SC3928A/QR/-X	TRANSISTOR	
Q609	UN2212-X	DIGI TRANSISTOR	
Q611	UN2212-X	DIGI TRANSISTOR	
Q612	2SC3928A/QR/-X	TRANSISTOR	
Q703	2SA1530A/QR/-X	TRANSISTOR	
Q704	2SC3928A/QR/-X	TRANSISTOR	
Q705	SSM3K02F-X	MOS FET	
Q706	SSM3K02F-X	MOS FET	
Q707	2SC3928A/QR/-X	TRANSISTOR	
Q708	2SA1530A/QR/-X	TRANSISTOR	
Q791	DTC124ESA-T	DIGI TRANSISTOR	
Q801	KTA1267/YG/-T	TRANSISTOR	
Q803	UN2226-X	DIGI TRANSISTOR	
Q804	UN2226-X	DIGI TRANSISTOR	
Q805	2SA1530A/QR/-X	TRANSISTOR	
Q955	2SC3928A/QR/-X	TRANSISTOR	
D001	MA8051/M/-X	Z DIODE	
D341	MA8033/H/-X	Z DIODE	
D342	MA8033/H/-X	Z DIODE	
D343	MA8033/H/-X	Z DIODE	
D345	MA111-X	SI DIODE	
D349	MA8120/M/-X	Z DIODE	
D350	MA8075/M/-X	Z DIODE	
D351	EU01N-T2	SI DIODE	
D354	RGP10J-5025-T3	SI DIODE	
D355	RGP10J-5025-T3	SI DIODE	
D356	RGP10J-5025-T3	SI DIODE	
D423	GP10DE-5009-T2	SI DIODE	
D451	MA8043/L/-X	Z DIODE	
D471	1SR124-400A-T2	SI DIODE	
D472	MA111-X	SI DIODE	
D520	MA111-X	SI DIODE	
D521	RH3G-F1	SI DIODE	
D522	31DF6N-FC5	SI DIODE	
D523	RGP10J-5025-T3	SI DIODE	
D530	RGP10J-5025-T3	SI DIODE	
D551	RGP10J-5025-T3	SI DIODE	
D552	RGP10J-5025-T3	SI DIODE	
D554	MA8051/L/-X	Z DIODE	
D571	MA8075/H/-X	Z DIODE	
D581	RGP10J-5025-T3	SI DIODE	
D601	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
D603	MA111-X	SI DIODE	
D604	MA8300/H/-X	Z DIODE	
D605	MA8300/H/-X	Z DIODE	
D607	1SS133-T2	SI DIODE	
D701	MA111-X	SI DIODE	
D702	MA8091/H/-X	Z DIODE	
D704	MA8091/H/-X	Z DIODE	
D706	MA8036-X	Z DIODE	
D707	MA111-X	SI DIODE	
D708	MA111-X	SI DIODE	
D709	MA111-X	SI DIODE	
D710	MA8091/H/-X	Z DIODE	
D711	MA8051/M/-X	Z DIODE	
D712	MA8051/M/-X	Z DIODE	
D713	MA8039/H/-X	Z DIODE	
D714	MA8030/H/-X	Z DIODE	
D751	MA8091/H/-X	Z DIODE	
D753	MA8091/H/-X	Z DIODE	
D791	MA8062/M/-X	Z DIODE	
D801	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D802	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D803	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D804	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D808	LH22440-T16	LED	POWER(RED)
D810	MA8091/H/-X	Z DIODE	
D811	MA8091/H/-X	Z DIODE	
D812	MA8091/H/-X	Z DIODE	
D813	MA8091/H/-X	Z DIODE	
D814	MA8091/H/-X	Z DIODE	
D815	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D816	NCB21HK-152X	C CAPACITOR	1500pF 50V K
D817	MA8091/H/-X	Z DIODE	
D901	GSIB460-S1	BRIDGE DIODE	
D921	RGP10J-5025-T3	SI DIODE	
D922	1SS133-T2	SI DIODE	
D926	RGP10M-5010-T3	SI DIODE	
D927	1SS133-T2	SI DIODE	
D928	MA8240/M/-X	Z DIODE	
D929	MA111-X	SI DIODE	
D931	MA8062/M/-X	Z DIODE	
D932	MTZJ27B-T2	Z DIODE	
D933	MTZJ9.1C-T2	Z DIODE	
D934	MTZJ9.1C-T2	Z DIODE	
D935	MTZJ9.1C-T2	Z DIODE	
D951	31DF6N-FC5	SI DIODE	
D952	FSF05A20	SI DIODE	
D953	RGP10J-5025-T3	SI DIODE	
D954	RGP10J-5025-T3	SI DIODE	
D955	FSF05A20	SI DIODE	
D956	MA111-X	SI DIODE	
D957	MA111-X	SI DIODE	
D962	MA8330/M/-X	Z DIODE	
D970	MA8082/M/-X	Z DIODE	
D971	MA111-X	SI DIODE	
D973	MA111-X	SI DIODE	
D975	MA111-X	SI DIODE	
D977	MA111-X	SI DIODE	
D980	QQR1114-001Z	FERRITE BEADS	
C001	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C002	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C003	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C004	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C005	NCB31HK-222X	C CAPACITOR	2200pF 50V K
C006	QETN1CM-336Z	E CAPACITOR	33uF 16V M
C101	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C102	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C103	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C104	QETN1EM-476Z	E CAPACITOR	47uF 25V M
C106	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C109	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C110	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C111	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C317	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C341	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C351	NDC31HJ-102X	C CAPACITOR	1000pF 50V J
C352	QETN2EM-475Z	E CAPACITOR	4.7uF 250V M
C353	QFKC2EK-104Z	MM CAPACITOR	0.1uF 250V K
C358	QCZ0364-222	C CAPACITOR	2200pF 2kV K
C422	QCS32HJ-180Z	C CAPACITOR	18pF 500V J
C423	NCB31HK-682X	C CAPACITOR	6800pF 50V K
C424	QFLC2AJ-683Z	M CAPACITOR	0.068uF 100V J
C427	QETM1VM-108	E CAPACITOR	1000uF 35V M
C428	QEHR1VM-227Z	E CAPACITOR	220uF 35V M
C430	QFLC2AJ-563Z	M CAPACITOR	0.056uF 100V J
C431	QFVF1HJ-184Z	MF CAPACITOR	0.18uF 50V J
C435	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C436	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C452	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C453	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C471	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C520	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C521	QCB31HK-332Z	C CAPACITOR	3300pF 50V K

⚠Ref No.	Part No.	Part Name	Description Local
C522	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C523	QETN1VM-476Z	E CAPACITOR	47uF 35V M
⚠C524	QFZ0196-252	MPP CAPACITOR	2500pF 1.5kV H
C525	QFZ0196-113	MPP CAPACITOR	0.011uF 1.5kV H
C526	QFZ0196-252	MPP CAPACITOR	2500pF 1.5kV H
C527	QFZ0197-184	MPP CAPACITOR	0.18uF 250V J
C528	QFP32GJ-223	PP CAPACITOR	0.022uF 400V J
C529	QENC2AM-225Z	BP E CAPACITOR	2.2uF 100V M
C530	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C531	QEZ0195-475	BP E CAPACITOR	4.7uF 50V M
C532	QETN2EM-106Z	E CAPACITOR	10uF 250V M
C551	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C552	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C553	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C554	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C555	QFLC2AJ-103Z	M CAPACITOR	0.01uF 100V J
C571	QETM2CM-227	E CAPACITOR	220uF 160V M
C572	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C573	QETN1EM-476Z	E CAPACITOR	47uF 25V M
C581	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J
C582	QFZ0197-224	MPP CAPACITOR	0.22uF 250V J
C601	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C602	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C603	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C604	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C605	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C606	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C607	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C608	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C609	QETN1HM-336Z	E CAPACITOR	33uF 50V M
C610	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C613	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C615	QETN1EM-108Z	E CAPACITOR	1000uF 25V M
C616	QETN1EM-108Z	E CAPACITOR	1000uF 25V M
C656	QETN1HM-107Z	E CAPACITOR	100uF 50V M
C661	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C662	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C701	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C702	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C703	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C704	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C705	NDC31HJ-3R0X	C CAPACITOR	3pF 50V J
C706	NDC31HJ-3R0X	C CAPACITOR	3pF 50V J
C707	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C708	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C709	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C710	NCB31HK-682X	C CAPACITOR	6800pF 50V K
C711	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M
C712	QFVF1HJ-224Z	MF CAPACITOR	0.22uF 50V J
C713	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C714	NCB31HK-223X	C CAPACITOR	0.022uF 50V K
C715	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C716	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C717	NCB31HK-473X	C CAPACITOR	0.047uF 50V K
C718	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J
C719	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C720	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C723	NCB21CK-105X	C CAPACITOR	1uF 16V K
C724	NCB21CK-105X	C CAPACITOR	1uF 16V K
C725	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C726	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C727	NCB31HK-332X	C CAPACITOR	3300pF 50V K
C728	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C729	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M
C730	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C731	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C732	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M
C733	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C734	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C735	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C736	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C737	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C738	NCB21CK-105X	C CAPACITOR	1uF 16V K
C739	NCB21CK-105X	C CAPACITOR	1uF 16V K
C740	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C741	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C742	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C743	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C744	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C745	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C746	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C747	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C748	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C749	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C750	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C751	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C752	NCB31HK-104X	C CAPACITOR	0.1uF 50V K

⚠Ref No.	Part No.	Part Name	Description Local
C753	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C754	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C755	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C756	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C757	NDC31HJ-561X	C CAPACITOR	560pF 50V J
C758	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C759	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C760	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C761	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C762	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C763	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C764	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C765	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C766	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C767	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C768	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C770	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C771	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C772	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C773	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M
C774	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C775	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C776	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C777	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C778	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C779	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C780	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C781	NCB21CK-105X	C CAPACITOR	1uF 16V K
C782	NCB21CK-105X	C CAPACITOR	1uF 16V K
C783	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C789	QETN1HM-476Z	E CAPACITOR	47uF 50V M
C790	NDC31HJ-270X	C CAPACITOR	27pF 50V J
C792	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C793	QETN1HM-335Z	E CAPACITOR	3.3uF 50V M
C802	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C803	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C804	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C806	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C807	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
⚠C901	QFZ9077-104	MPP CAPACITOR	0.1uF 250V M
⚠C902	QFZ9072-473	MM CAPACITOR	0.047uF AC250V K
⚠C903	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
⚠C904	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
⚠C905	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C906	QEZ0476-337	E CAPACITOR	330uF 400V M
⚠C910	QFZ9077-104	MPP CAPACITOR	0.1uF 250V M
C915	QCZ0122-471	C CAPACITOR	470pF 2kV K
C917	QCB32HK-181Z	C CAPACITOR	180pF 500V K
C922	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C924	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C925	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C926	QFLC1HJ-822Z	M CAPACITOR	8200pF 50V J
C928	QCB31HK-102Z	C CAPACITOR	1000pF 50V K
C929	QCB32HK-103	C CAPACITOR	0.01uF 500V K
C931	QCZ0364-102	C CAPACITOR	1000pF 2kV K
C940	QCZ0364-152	C CAPACITOR	1500pF 2kV K
C949	QETN1AM-108Z	E CAPACITOR	1000uF 10V M
C950	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C951	QCZ0364-561	C CAPACITOR	560pF 2kV K
C952	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C953	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C954	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C955	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C956	QEZ0203-227	E CAPACITOR	220uF 160V M
C957	QETN1CM-108Z	E CAPACITOR	1000uF 16V M
C958	QETN1EM-477Z	E CAPACITOR	470uF 25V M
C959	QETN1VM-107Z	E CAPACITOR	100uF 35V M
C960	QETM1VM-228	E CAPACITOR	2200uF 35V M
C962	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C963	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C964	QETN1VM-107Z	E CAPACITOR	100uF 35V M
C965	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C966	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C967	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C968	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C975	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C976	NCB31HK-472X	C CAPACITOR	4700pF 50V K
C977	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C978	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C979	QETN1EM-107Z	E CAPACITOR	100uF 25V M
C980	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C981	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C982	QETN1HM-475Z	E CAPACITOR	4.7uF 50V M
C983	QETN1CM-106Z	E CAPACITOR	10uF 16V M
C984	QETN1HM-336Z	E CAPACITOR	33uF 50V M
C985	QETN1CM-476Z	E CAPACITOR	47uF 16V M
C986	NCB31HK-104X	C CAPACITOR	0.1uF 50V K

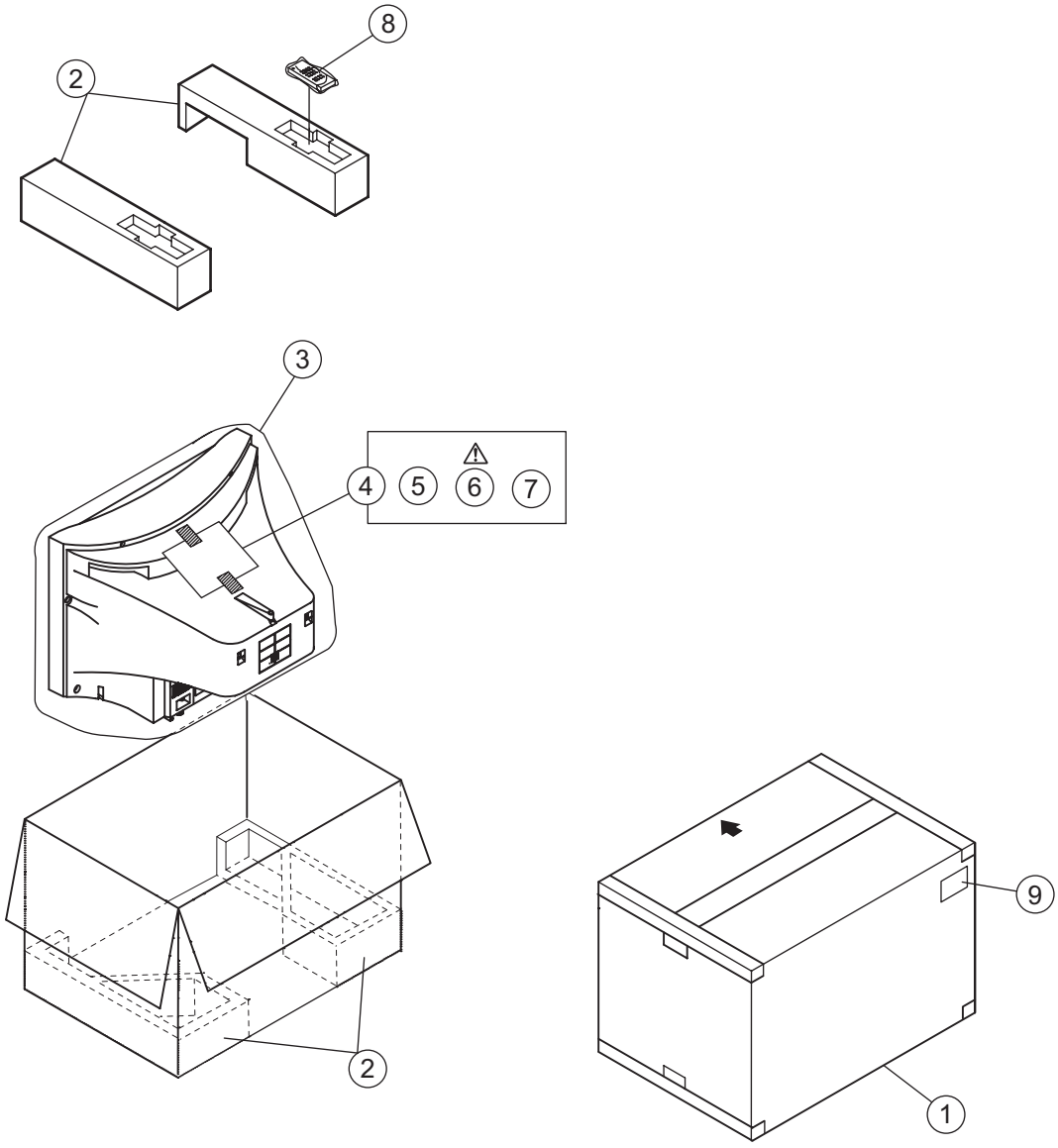
⚠Ref No.	Part No.	Part Name	Description Local
C989	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
⚠C991	QCZ9079-102	C CAPACITOR	1000pF AC250V M
⚠C992	QCZ9079-102	C CAPACITOR	1000pF AC250V M
⚠C993	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C994	QETN1HM-335Z	E CAPACITOR	3.3uF 50V M
R001	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R002	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R003	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R004	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R005	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J
R006	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R007	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R008	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R101	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R102	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
R103	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
R104	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R105	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
R106	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J
R315	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R316	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R317	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R323	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R324	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R325	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R327	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J
R328	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R341	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R343	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R344	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
R345	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R351	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R352	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
R353	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
R354	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
R355	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
R356	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
R357	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
R358	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
R359	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
R360	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
R369	QRE121J-104Y	C RESISTOR	100kΩ 1/2W J
R411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R412	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R426	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R427	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J
R430	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R432	QRX01GJ-2R2	MF RESISTOR	2.2Ω 1W J
R433	QRE121J-6R8Y	C RESISTOR	6.8Ω 1/2W J
R434	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J
R440	QRG01GJ-221	OMF RESISTOR	220Ω 1W J
R448	QRE121J-1R0Y	C RESISTOR	1Ω 1/2W J
R451	QRE121J-681Y	C RESISTOR	680Ω 1/2W J
R452	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R453	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R454	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R455	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R456	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R457	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R458	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
R459	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
R460	QRE121J-223Y	C RESISTOR	22kΩ 1/2W J
R461	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R462	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R463	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R464	QRL039J-330	OMF RESISTOR	33Ω 3W J
R471	NRSA63J-155X	MG RESISTOR	1.5MΩ 1/16W J
R472	NRSA63J-124X	MG RESISTOR	120kΩ 1/16W J
R473	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R474	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J
R520	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R521	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R522	QRE121J-220Y	C RESISTOR	22Ω 1/2W J
R523	QRL029J-271	OMF RESISTOR	270Ω 2W J
R524	QRL039J-181	OMF RESISTOR	180Ω 3W J
R527	QRL039J-393	OMF RESISTOR	39kΩ 3W J
R528	QRE121J-471Y	C RESISTOR	470Ω 1/2W J
⚠R530	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J
⚠R533	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J
R551	QRX029J-R47	MF RESISTOR	0.47Ω 2W J
R552	QRX029J-R47	MF RESISTOR	0.47Ω 2W J
R554	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
R569	QRZ0221-3R9	UNF RESISTOR	3.9Ω 7W K
R572	QRE121J-472Y	C RESISTOR	4.7kΩ 1/2W J
R573	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J
R574	QRE121J-183Y	C RESISTOR	18kΩ 1/2W J
R575	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R581	QRE121J-822Y	C RESISTOR	8.2kΩ 1/2W J
R582	QRE121J-124Y	C RESISTOR	120kΩ 1/2W J
R583	QRE121J-184Y	C RESISTOR	180kΩ 1/2W J
R601	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R602	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R603	MA111-X	SI DIODE	
R604	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R606	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J
R607	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J
R609	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R610	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R611	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R612	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R614	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R618	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R620	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R621	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R622	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R623	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
R624	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R626	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R629	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R630	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
R631	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R632	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
R633	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R634	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R636	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R637	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R639	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R640	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R701	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R702	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R703	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R704	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R705	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J
R706	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R707	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R708	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R709	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J
R711	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R712	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R713	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R714	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R715	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R716	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R717	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R718	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R719	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R726	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R727	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J
R728	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R731	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R732	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R733	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R734	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R735	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R736	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R737	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R738	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R740	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R741	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R742	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R743	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R744	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R745	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R747	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R748	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R749	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R751	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R752	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R753	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R754	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R755	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R756	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R757	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R758	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R759	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R760	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R761	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R762	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R763	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R764	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R765	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R768	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R771	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J

⚠Ref No.	Part No.	Part Name	Description Local
R772	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R773	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R774	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R775	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R776	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R777	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R779	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R780	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R781	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R782	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R783	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R785	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R786	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R787	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R788	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R790	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R791	QRE121J-102Y	C RESISTOR	1kΩ 1/2W J
R792	QRE123J-330X	C RESISTOR	33Ω 1/2W J
R793	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R794	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R795	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R796	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R801	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R802	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R803	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R804	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R805	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R806	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R807	QRE121J-101Y	C RESISTOR	100Ω 1/2W J
R809	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R810	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R811	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R812	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R813	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R814	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R815	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R816	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R818	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J
R819	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R820	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
R821	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R822	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R823	QRE121J-470Y	C RESISTOR	47Ω 1/2W J
R824	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R901	QRF154K-2R2	UNF WW RESISTOR	2.2Ω 15W K
R902	QRL029J-473	OMF RESISTOR	47kΩ 2W J
R903	QRL029J-333	OMF RESISTOR	33kΩ 2W J
⚠R910	QRZ0107-474Z	C RESISTOR	470kΩ 1/2W K
R921	QRE121J-101Y	C RESISTOR	100Ω 1/2W J
R922	QRZ0237-R18	UNF WW RESISTOR	0.18Ω 3W J
R923	QRT029J-R47	MF RESISTOR	0.47Ω 2W J
R924	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R929	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R930	QRL039J-473	OMF RESISTOR	47kΩ 3W J
⚠R932	QRZ9017-100	FUSI RESISTOR	10Ω 1/4W J
R934	QRE121J-102Y	C RESISTOR	1kΩ 1/2W J
R935	QRE121J-152Y	C RESISTOR	1.5kΩ 1/2W J
R951	QRE121J-102Y	C RESISTOR	1kΩ 1/2W J
R953	QRE121J-182Y	C RESISTOR	1.8kΩ 1/2W J
R962	QRL029J-223	OMF RESISTOR	22kΩ 2W J
R963	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R964	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R965	QRT029J-R82	MF RESISTOR	0.82Ω 2W J
R970	QRE121J-182Y	C RESISTOR	1.8kΩ 1/2W J
R973	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R974	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R976	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R977	QRL039J-120	OMF RESISTOR	12Ω 3W J
R978	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R981	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
⚠R991	QRZ9046-825Z	C RESISTOR	8.2MΩ 1/2W K
L002	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L003	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L101	QQL244K-1R0Z	PEAKING COIL	1uH K
L351	QQL244J-220Z	COIL	22uH J
L521	QQR1138-001	CHOKE COIL	
L522	QQR1137-005	LINEARITY COIL	
L530	QQL244K-220Z	PEAKING COIL	22uH K
L551	QQLZ026-300	COIL	30uH ±7%
L701	NQL092K-100X	COIL	10uH K
L702	NQL092K-100X	COIL	10uH K
L703	NQL092K-100X	COIL	10uH K
L704	NQL092K-100X	COIL	10uH K
L705	NQL092K-100X	COIL	10uH K
L706	NQL092K-100X	COIL	10uH K
L707	NQL092K-100X	COIL	10uH K
L708	NQL092K-100X	COIL	10uH K
L709	NQL092K-100X	COIL	10uH K
L710	NQL092K-100X	COIL	10uH K
L711	NQL092K-100X	COIL	10uH K
L712	NQL092K-100X	COIL	10uH K
L713	NQL092K-100X	COIL	10uH K
L714	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
L715	NQL092K-100X	COIL	10uH K
L716	NQL092K-100X	COIL	10uH K
L717	NQL092K-100X	COIL	10uH K
L951	QQLZ026-460	COIL	46uH ±7%
L952	QQL26AK-470Z	CHOKE COIL	47uH K
L954	QQL244J-5R6Z	COIL	5.6uH J
L972	QQL244J-5R6Z	COIL	5.6uH J
L973	QQL244J-5R6Z	COIL	5.6uH J
L975	QQL26AK-820Z	CHOKE COIL	82uH K
L994	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
T521	QQR1229-001	DRIVE TRANSF	
⚠T921	QQS0271-001	SW TRANSF	
⚠PC901	PS2581AL1/QW/	PHOTO COUPLER	
CF101	QAX0349-001	C TRAP	47.25MHz
⚠CP650	ICP-N25-Y	IC PROTECTOR	1.0A
⚠CP952	ICP-N38-Y	IC PROTECTOR	1.5A
⚠CP953	ICP-N38-Y	IC PROTECTOR	1.5A
⚠CP954	ICP-N38-Y	IC PROTECTOR	1.5A
⚠CP955	ICP-N75-Y	IC PROTECTOR	2.7A
⚠F901	QMF51E2-4R0J4	FUSE	4A AC250V
J801	QNZ0454-002	PIN JACK	VIDEO1/S-VIDEO
J802	QNN0349-002	PIN JACK	VIDEO2/COMP
J803	QNN0348-001	PIN JACK	VIDEO2/COMP
J804	QNN0349-001	PIN JACK	VIDEO OUT
J806	QNN0281-003	PIN JACK	VIDEO3(FRONT)/L3
J807	QNN0281-002	PIN JACK	VIDEO3(FRONT)/R3
J808	QNN0282-001	PIN JACK	VIDEO3(FRONT)/V3
J809	QNS0155-001	3.5 JACK	HEADPHONE
K101	QQR1114-001Z	FERRITE BEADS	
K103	QQR1114-001Z	FERRITE BEADS	
K107	QQR1114-001Z	FERRITE BEADS	
K108	QQR1114-001Z	FERRITE BEADS	
K301	QQR1113-001Z	FERRITE BEADS	
K355	QQR1113-001Z	FERRITE BEADS	
K901	QQR1114-001Z	FERRITE BEADS	
K921	QQR1114-001Z	FERRITE BEADS	
K922	QQR1114-001Z	FERRITE BEADS	
K951	QQR1114-001Z	FERRITE BEADS	
K952	QQR1113-001Z	FERRITE BEADS	
K953	QQR1113-001Z	FERRITE BEADS	
K954	QQR1113-001Z	FERRITE BEADS	
K955	QQR1113-001Z	FERRITE BEADS	
LC801	QQR1199-001	EMI FILTER	
LC802	QQR1199-001	EMI FILTER	
LC803	QQR1199-001	EMI FILTER	
LC804	QQR1199-001	EMI FILTER	
LC805	QQR1199-001	EMI FILTER	
⚠LF901	QQR0673-004	LINE FILTER	
⚠LF902	QQR1035-002	LINE FILTER	
⚠RY901	QSK0061-002	RELAY	
S801	QSW0619-003Z	TACT SWITCH	MENU
S802	QSW0619-003Z	TACT SWITCH	CH-
S803	QSW0619-003Z	TACT SWITCH	CH+
S804	QSW0619-003Z	TACT SWITCH	VOL-
S805	QSW0619-003Z	TACT SWITCH	VOL+
⚠S901	QSW0750-001	PUSH SWITCH	POWER
SF102	QAX0723-001	SAW FILTER	
⚠SK351	QNZ0536-001	CRT SOCKET	
⚠TH901	QAD0134-4R5	P THERMISTOR	4.5Ω
TU001	QAU0353-002	TUNER	
⚠VA901	QAF0060-621	VARISTOR	620V
X701	QAX0799-001Z	CRYSTAL	
	LC30114-001C-H	LED HOLDER	
	LC41232-001A-H	EE HOLDER	

REMOTE CONTROL UNIT PARTS LIST (RM-C1288-1H)

⚠	Ref No.	Part No.	Part Name	Description	Local
		R25-8566	BATTERY COVER		

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	GG10359-003A-D	PACKING CASE		
	2	GG10252-003A-D	CUSHION ASS'Y	4pcs in 1set	
	3	GG30124-004A-D	POLY BAG		
	4	GG30123-001A-D	POLY BAG INST.		
	5	----------	BATTERY	AA/R6 (x2)	
⚠	6	GGT0080-001A-D	INST BOOK		
	7	CEAB004-001	MATCHING UNIT		
	8	RM-C1288-1H	REMOCON UNIT		
	9	GG40050-001A-D	POS LABEL		